



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

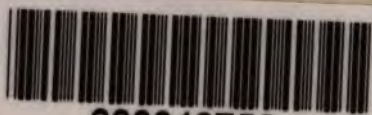
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

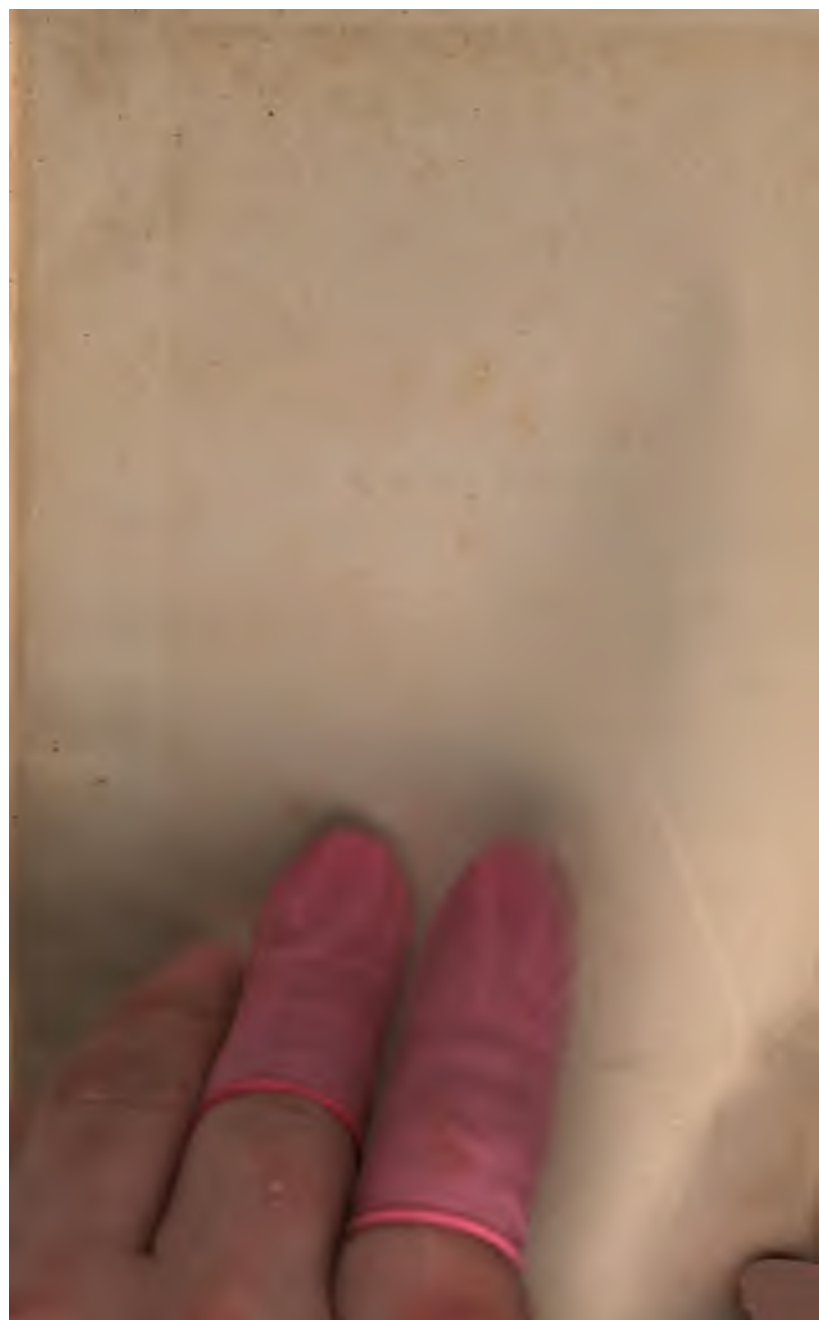
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



GEORGE & ROBERT
STEPHENSON



600048756-



THE WORLD'S WORKERS.

A Series of New and Original Volumes by Popular Authors. With Portraits printed on a Tint, as Frontispiece. Price *One Shilling* each.

General Gordon. By the Rev. S. A. SWAINE.

Charles Dickens. By his Eldest Daughter.

Sir Titus Salt and George Moore. By J. BURNLEY.

Dr. Guthrie, Father Mathew, Elihu Burritt, Joseph Livesey. By the Rev. J. W. KIRTON.

Sir Henry Havelock and Colin Campbell, Lord Clyde. By E. C. PHILLIPS.

Abraham Lincoln. By ERNEST FOSTER.
David Livingstone. By ROBERT SMILES.

Florence Nightingale, Catherine Marsh, Frances Ridley Havergal, Mrs. Ranyard ("L. N. R.") By LIZZIE ALLDRIDGE.

George Müller and Andrew Reed. By E. R. PITMAN.

Richard Cobden. By R. GOWING.

Benjamin Franklin. By E. M. TOMKINSON.

Handel. By ELIZA CLARKE.

Turner, the Artist. By the Rev. S. A. SWAINE.

George and Robert Stephenson. By C. L. MATÉAUX.

CASELL & COMPANY, LIMITED, *Ludgate Hill, London; and all Booksellers.*



Geo Thompson



Wm Lloyd Garrison

THE WORKS

OF
John F. Stephenson

BY

JOHN F. STEPHENSON

NEW YORK

1854



Geo Benson



William Benson

THE AMERICAN

George and John H. Stephens.

THE AMERICAN

THE AMERICAN



Ph.



Ph. de la Cour.

!
THE WORLD'S WORKERS.

George and Robert Stephenson.

BY

C. L. MATÉAUX,

Author of "Brave Lives and Noble," "The Wonderland of Work," &c.



CASSELL & COMPANY, LIMITED:

LONDON, PARIS, NEW YORK & MELBOURNE.

[ALL RIGHTS RESERVED.]

1885.



CONTENTS.



	PAGE
CHAPTER I.	
HOW GEORDIE "WON" A BONNET	5
CHAPTER II.	
THE FIRST "PUFFING-BILLY"	18
CHAPTER III.	
FROM ENGINES TO POT-HOOKS	27
CHAPTER IV.	
AT THE PIT'S MOUTH	34
CHAPTER V.	
SUNSHINE AND CLOUDS	45

	PAGE
CHAPTER VI.	
THE "GEORDIE" SAFETY LAMP	62
CHAPTER VII.	
THE LOCOMOTIVE: ITS STORY	77
CHAPTER VIII.	
CHAT MOSS	92
CHAPTER IX.	
A PRIZE "ROCKET".	105
CHAPTER X.	
"THE END CROWNS THE WORK"	119

GEORGE AND ROBERT STEPHENSON.

CHAPTER I.

HOW GEORDIE "WON" A BONNET.

"Tyne River running smooth or rough,
Makes bread for me and mine ;
Of all the rivers, north or south,
There's none like Coaly Tyne.
So here's to Coaly Tyne, my lads,
Success to Coaly Tyne,
Of all the rivers, north or south,
There's none like Coaly Tyne."

The Keelman's Song.

"FOR mercy's sake, don't think of taking me down that coal-pit at this time of night !"

So exclaimed the Duke of Cumberland, when, on his hurried way to Culloden's field, in 1746, he found himself looking from a high bank, into what appeared to be an impassable abyss, dim and deepening because of the evening twilight ; but which in reality was merely the steep ravine dividing Newcastle from Gateshead. Had the moon but shone out, he would have seen that at the base of this ravine flowed what was already known as the "Coaly Tyne," its dingy waters spanned by a picturesque old bridge built on

oaken piles, on which stood quaint tall buildings—the whole of which were to be washed away by a terrible land flood that destroyed all before it.

On this same Coaly Tyne he would have seen many a swift but grimy keel, tubby little vessels—special to this river,—rounded fore-and-aft, and having but one sail—the whole after the fashion of those built by the hardy Norsemen who once congregated about here, and in the long ago navigated this stream when it was but a narrow creek full of sand-banks. Only in our own times has this been gradually altered and amended, by means of a restless, toiling, modern thing of chains and buckets known as a Tyne dredger; so that now the noble river runs clear and free, admitting the tide along some twenty miles of its course, and offering easy passage to many a trading vessel, laden merchantman, steamer, cattle ship, brig and screw collier; so that the Tyne has become as it were one long convenient dock, extending all the way between Newcastle and Shields.

In the time when King George's son uttered the startled exclamation we have recorded, on all the steep descents hereabouts, and even down to the crowded quay-side, were closely clustered ancient timber houses, built in the days of the Tudors. It was Queen Elizabeth who founded here in "Newcassel," its first "Hye school," and appointed "a learned and painful man to indoctrinate its youth in Greek and Latin." When my story begins, there was still standing

the West Gate, "a mightye strong thinge, of four wardes," which, like most buildings hereabouts, bore many ill marks of the border ravagers of old fighting times. It was through this self-same gate that, foot-sore and weary, once tramped an apprentice from the "west countrie," one Rodger Thornton, whose memory is recalled by local ditties and rhymes, such as—

"At the West Gate came Thornton in,
With a hap, and a ha'penny, and a lambkin ;"

—ditties sung all the more cheerily because that this same poor traveller became (Whittington fashion) the richest "marchant in all rich Newcassel," and that his one fair daughter wedded the proud Lord Lumley, and their pious descendants built a fine "House of God for the poore"—a "*maison dew*," as the folk hereabouts styled it—"to harborour the sicke and to give in almes certaine cooles to comfort the poore, also brede."

"Cooles" were ever a ready as well as a necessary gift to comfort "the poore" in such a place, for "Newcassel" was already known as "the Coal Hole of the North," and "the Eye of the North," and "the Hearth that warmeth the South Parts of this Kingdom with Fire."

It remained little more than a "Coal Hole" for long years after its uncanny grimness had startled Culloden Cumberland ; then it so far woke up, that because of the many accidents that chanced through the steepness of its roads—almost impassable in the pitchy

darkness of a winter night,—the roused burgesses laid their wise heads together, and actually proceeded to hang certain flickering oil lamps about the old town streets, opposite neighbours agreeing to pass a rope across from door to door, and from its centre to suspend one of these very smoky, and ill-smelling, but necessary articles. Then, too, because of constant frays and broken bones, they actually appointed a constable and twenty-six old watchmen, each to be provided with a noisy rattle, a lantern and a good stout stick, with which to enforce peace, and awe ill-doers ; and after these unparalleled exertions and arrangements, the “Newcassel” authorities went to sleep again for a long period, during which their one mail coach ran, or rather crept, every few days to London or Edinburgh, and their one gig to Tynemouth and North Shields.

Yet, however quiet “Newcassel” might be in a general way, it always happened that at certain periods of the year the old city and its neighbourhood were astir with bustle and business. These were the times of the great fairs, and of hirings, held on the big Town Moor, to which festive gatherings came trooping buyers and sellers, and lookers-on from all parts, and countless men, women and children from the many collieries round about. Especially they looked forward to the Lammas Fair, which lasted a whole eight days, and where much rough-and-ready frolic, as well as open-air trading took place. Every kind of useful thing

was to be seen at this fair. To it were brought cattle innumerable,—for the scattered Northern farmers depended much on what they could buy and sell here; as did the dealers, who came driving their straggling procession of packhorses, whose little bells had tinkled cheerily over many a mile of uneven country road—sturdy horses and well-laden, what with travellers riding, or with bales and packages of Yorkshire cloth, and stout Lancashire homespun linen, such as housewives made and wove, before tall mill chimneys smoked in every direction, and steam took the place of distaff and spindle, aye, and of knitting-needles too.

I want to give my readers of to-day, a peep at one of these busy Lammas fairs, one that took place now, about a hundred years ago. It commenced on a very fine August day, and to it crowded even a larger number of countryfolk than usual.

Roads leading to the moor were almost impassable, and great was the din caused by clattering clogs, and by chattering tongues, wagging in a way altogether deafening and unintelligible to southern ears, all because of a certain “burr” peculiar to these merry Northumbrian lads and lasses. To add to the Babel, rose the baa-a of frightened sheep, or the snorts and shrieky appeals of numberless fat Yorkshire pigs that, pig-like, objecting to go any way but of their very own choosing, ran into shops or stalls, against people's legs, and over prostrate babies, while their breathless drivers laid about with long-lashed

whips, and abused and were abused in strange terms for the ill-doings of their hot and troublesome charges, so continually threatening to commit suicide beneath the broad, solid wheels of the low, open, heavy waggons of the period, that lumbered creaking by, laden high with provisions or goods for the fair.

However, it is not with all this bustling country throng we have to do. I had to take you into the thick of it before I could give you a fair first peep at Geordie Stephenson: he was so insignificant as yet, being only a little shabby boy, and one somewhat tired with tramping a long distance over dusty roads. He and Nell, his big sister, had been too excited at the day's treat before them to eat fair shares of the family breakfast of crowdie (or oatmeal stirred up in boiling water), tea being only known by name as yet in poor homes like theirs, and scarce even in better-off ones in far London town.

I need not say Nell and young Geordie were highly diverted with all the stir going on in old Newcastle; and they tramped streets and 'chares' or passages that led down to Tyneside, with great delight and satisfaction, the boy's mind entirely taken up with the things about him and the unexpected sights on the moor; Nell, somewhat abstracted because of an intended purchase.

She had long been saving every penny-piece that she might to-day invest in a bonnet, or "chip," as the Wylam girls called the big coarse straw "pokes"

they wore on great occasions only; the rest of the time they went about, as rosy-faced, sunburnt Nell was doing to-day, with a little check shawl pinned close under the chin, and hiding all the hair. To own such a bonnet, and to show off her curls, had long been this lassie's one ambition, so it is easy to imagine how tightly she held her few coins clasped safe in one brown hand, while with the other she clutched fast at Geordie's jacket, as capering lightly he led the way whistling, and well disposed for all the fun.

So they struggled together towards Cow Hill, passing up the long and narrow Pilgrim Street, once trodden incessantly by the bare feet of pious devotees on their way to the Holy Well, on Jesus Mount yonder (now known as Jesmond), and echoing with the clang of wooden shoon, and the shouts of noisy colliers loose for a holiday, instead of with prayerful hymns and *benedicites*, as of old, when the monks had sway.

In Geordie's days, not only men and boys but women and girls toiled in the dismal depths of many of the coal mines hereabouts: poor creatures, dressed in unwomanly rags, who came and took an equal share of the wretched work that it grieves us to picture even strong men engaged at. Think of them, too, in those times, openly toiling as labourers' assistants, or as slaters, carrying hods of brick and mortar up the ricketty ladders, scrambling and striding over roofs of houses, and about rough scaffoldings, where they need hold on for dear life. To-day was holiday,

yet because of so many pitmen, pitwomen, and drovers, you may imagine it was a rough assemblage that crowded the streets, or lingered in the shadow of the old "New Castle," which Normans built in the long ago, when William the First ruled the land.

Being observant of all strange matters, the two youngsters lingered to peep in at Mrs. Betty's mutton-pie shop, where all the rich folk assembled. It was said, even as far as Wylam, Betty owned golden sovereigns enough to rival the wealthiest of them all. Next, they joined in the ring about blind Tommy Thompson, he who was held to be the best judge of cattle in all the North, where most men are skilled in such matters; but Tommy could tell by fine touch, more than others could by seeing, and just now was loudly declaring that a certain spotted calf did not belong to a certain cow, as stated; and as what Tommy said must be right, there was so much discordant noise on the subject, that our youngsters were glad to pass on to St. Nicholas Square, where proclamation of the fair was, and is still, made at noon.

Waiting there, they stared upwards at the tall steeple, not because of its being a marvel of stonework, but that, as they heard, two crows had built a big ragged nest right above the weathercock, so that their feathered younglings were finely rocked at every turn of the wind, which blew pretty sharply at times, though perhaps because of the notice they attracted, other crows disapproved, with angry "kooa's," "kooa's;"

and when in the next spring-time the same pair had fain have built on the same odd perch, their feathered comrades came trooping beak and claw, and spitefully demolished the cradle as fast as it began to take form. Then, for two other seasons they had better luck, and built on the very spire of the ancient church, and reared their young, unmolested by their kind.

Altogether, there was plenty of excitement, even before the bells began to clang twelve, and the great rush to St. Nicholas Square was made, men being mad to see the long and splendid procession of civic authorities, so grand in robe and chain of office; yet none so grand as the beadle, in big cocked hat and gold lace, who looked the lord and king of them all, as, after loud ringing, he struck the earth with a tall wand, and made hoarse and pompous proclamation of the opening of Lammas fair, reading exactly the same form of words, as was given from time immemorial, and is annually used for the purpose to this very day:—

“O YEZ! O YEZ!! O YEZ!!! the Right Worshipful the Mayor, the Sheriff, and the Aldermen their Brethren, Give Notice, the Fair of this Town begins at 12 o'clock this Day, and will continue for the next Eight Days after, when it shall be Lawful for all Persons to come to the Town with their Wares to sell. And it is strictly Charged and Commanded that no Person, of what degree or quality soever, be so hardy during the time of this Fair as to carry any

manner of Weapon about, except he be a Knight or Squire of Honour, and then to have a Sword borne after him!

"Notice is further given that a Court of Pie Powder will be holden during the time of this Fair, that is to say, One in the Forenoon, another in the Afternoon, when Rich and Poor have Justice administered to them, according to the Law of the Land, and the customs of this town! God save the King! the Worshipful Mayor, *and* the Sheriff!"

Then down came the beadle's wand with a fine sounding thud, and there followed the loud ding, dong! of a mighty brass bell, and such hearty cheering for King George as loyal Northern throats could utter; cheers in which our Geordie joined lustily—as such young lads freely will, when they get a chance of making much ado, unreprieved. And then they both "lup up, and catch'd just a short gliff o' th' Corporation," as Nell reported it; and were off at once to see the lively business of the fair, now open officially. Its golden gingerbread babies; its misleading peeps at giants' head, dwarfs' hands, and tragedy queens; its wild-beasts shows, and cockfights, and loud cheap Jacks; for in all these things Lammas fair excelled, and still excels, as I am told by those who should know of these merry matters.

The brother and sister saw all that could be easily seen "free, gratis, for nothing;" Geordie steadily working their way through the closely-packed mass

of sightseers, and Nell at his heels. The fairing folk were good-natured enough, though loud and noisy, being mostly pitmen and pitmen's wives and children, at the best tolerated, but not approved of, by the fussy townsmen, who looked down upon them, as did even the "bullies" and "pee-dees" or Tyne watermen, and their apprentices—people who getting their living on the river, scorned those who toiled hardly for it underground, with a fine pride difficult to account for, but which brought about much quarrelling later in the day. Early as it was, the two young people, having to retreat from a sudden affray on the moor, found themselves strolling toward the ancient Bigge market; where, seeing many smart things of the kind, Nell was suddenly reminded of her "chip," and with Geordie following, entered one of the humblest shops and proceeded to bargain for a suitable article.

Miss Nell was not easily suited, for though there were plenty of bonnets here, there was but one that pleased her, and that, unfortunately, cost twice as much money as she owned. She tried on first one, then another, but no! no! not any of them pleased the girl; and at last she came out of the shop, and stood in the market-place again, almost crying with vexation and disappointment. Nothing her young brother could advise, comforted her; she wanted that particular "chip;" what was the use of talking! If only now she had fifteen-pence!

Geordie looked on, wondering and perplexed. How he wished he could win this fifteen-pence, and make his dear sister happy. If only he were older, and able to earn money by doing things, like some of the girl's brothers, he would—here his eye fell on a horseman in the distance, apparently seeking some one, and a brilliant idea flashed suddenly across the boy's practical mind, as he cried, "Bide here, Nell, till I come back." Then off he flew, leaving her to wait and wonder; to ponder listlessly over ways and means by which she might add to her little store before another Fair day came round; to finger and count the coins, as though they might increase because of her present need of more; then to wonder where Geordie had gone, how much longer he was going to be; and, as the shades of evening came slowly on, and the market-place grew still and deserted, to fidget crossly, and long for his return; finally to become most dreadfully uneasy, and to figure all kinds of mischance. He might be run over, or lost; or supposing he had been hurt in one of the big crowds; supposing—

"Hey, lass, I ha' gotten t' brass for tha' bonnet!"

Nell's heart gave a great, almost a painful bound of relief when she heard the well-known, eager young voice shouting cheerily, as the lad came dashing round the corner, rattling a handful of coppers—a whole fifteen-pence worth—which he counted one by one into the hand she almost mechanically held out.

Towzle-headed Nell stared at them, then at her little brother, with a glance of puzzled wonderment that delighted him exceedingly; then the girl suddenly made the natural enquiry—

“But hoo ha’ ye gotten it all, Geordie?”

The boy, beaming over with the exultant pride of one who had succeeded in a most unlikely task, answered, pointing towards the moor—

“Gotten it? hoo but by hauding gentlemen’s horses?”

This then was the brilliant idea suggested by the momentary pause and far-seeking gaze of that tired rider on the quest for an impromptu street page—not at hand, for a wonder, because, on such a day as this, all boys were more anxious to spend pennies than to earn them; so it might have been with this one had he not had it in his heart to help Nell in her longed for fairing, and to see her smile again.

Now when the laddie finished his joyous war-dance over the uneasy stones of the market-place, he seized upon his sister, and dragged her off to the shop that she might buy the fine bonnet he had won for her on this busy Lammas fair—won by the unselfish carrying-out of a sudden loving inspiration. But already, as all his life long, we shall see that Geordie Steve was quick to feel, to think, and to do,

CHAPTER II.

THE FIRST "PUFFING-BILLY."

"Then on we will ramble to Wylam's deep holes,
 Where the large heavy trout lie together in shoals;
 We will hook them and creel them, and make the glades ring,
 As with hearts—like our rods—all elastic, we sing."

The Fishers' Garland.

THIS call of the "Fishers" seems inviting enough, and pictures a place where any boy's life might be a very pleasant and holiday-like thing. Yet for all that, when our Geordie lived there, Wylam was already a busy Colliery Row, clustering about the grim coal-pits belonging to Squire Christopher Blackett, who lived in the big Hall beyond, and employed Geordie's father, and Geordie's relations, even as he did almost everyone hereabouts. The coal won—every pitman speaks of "winning" coal—was of the kind used in steam-engines, and worked from the south side of the Tyne, whence it was conveyed under the river and brought up here, quite near to the poor home of the Stephensons, which was almost the last house in Wylam, and stood perched alone, close to the high road between Newcastle and Hexham. Stood, did I say?—nay, still stands, to be pointed out by many a traveller northward, who peeps from the window of

his train to get a passing view of this now celebrated birthplace of the Father of Railways.

Geordie's father—generally known as "Old Bob Steve"—was only a very humble fireman, attendant on the rusty, creaky, primitive engine that pumped up water from the Wylam coal-pit, for the which service he was paid twelve shillings a week. Not a very bad wage for such work, maybe; but as gentle Mrs. Bob was only "vapourish," and there were six hearty bouncing children to provide for, it is easy to believe that the family were but poorly off, and not given to any advantages of "book-larnin'," their lot being plainly to work hard for a living, and to waste no time in setting about beginning to do it. Small wonderment that not one of those six shock-headed bairnies knew the sound, or even the look of the alphabet, or could say of its letters even so much as the dunce at the Lancashire dame school did:—"Aw knaw 'em by their feaces, but aw doan't knaw 'em by their neames." The Stephensons contentedly ignored them, "neames and feaces" both.

Then, too, the wonder how it was that not one of all these young Stephensons should have been to school is the less, when we remember the distance they would have had to tramp to find any such establishment; for it was not until 1790, when our Geordie was a big, long-legged laddie of nine years old, that the Methodists opened the first Sunday-school in the old Orphan House at Newcastle. No one had dreamt

of such a thing hitherto, yet was it so much needed and appreciated, that no fewer than a thousand and twelve untaught children at once eagerly presented themselves as free scholars, and seventy kind teachers offered to take charge of them.

Good Doctor Coke preached to a crowded assembly from the text—"Train up a child in the way he should go;" while honest John Wesley, considering such means as a blessed way of teaching the hitherto neglected children of the ignorant and poor toilers hereabouts, travelled hurriedly from a great distance, that he might deliver to these little ones in this uncivilised district an introductory discourse, suited to their comprehension. His text was—"Hearken unto me, ye children," and his simple sermon, composed entirely of words of two syllables, was full of love, and encouragement, and hope.

But the young Stephensons, living as far as Wylam, missed all this. They played up and down the dusty Row, along with the pitmen's children, bare-footed and scantily clad, until one by one they were old enough to be useful to "mother" indoors, and next able to earn their own living in some way or other connected with the colliery. So it was that Geordie began. First he minded one baby, while he watched to see the others did not run in the way of the big horse, dragging the grimy "Puffing Billy"—a familiar enemy, a monster of rusty iron, like some ugly dragon of old story for ever spurting forth black smoke as he

creaked up and down the rough wooden tramway that stretched away, passing in front of the house door.

A prodigious thing it had been pronounced by many country-folk that had come out of their way, even from Newcastle, to puzzle and stare at this, the first engine that had been known to draw a whole lot of coal-laden waggons up and down after it; and the steam, and the complaining noise of which marvel, impressed strangers with a kind of respectful awe, though Geordie and his brothers and sisters were not even a bit afraid, "Billy's" noise being, as it were, part and parcel of their everyday life; and they knowing from their father and the drivers all about the how and why of its comings and goings to and fro.

Perhaps, seeing it, as we can now do any day in the Kensington Museum, some may scornfully style poor old "Billy" a marvel of intricate clumsiness for all the many improvements that were made in it after Geordie formed its acquaintance; yet in those days, "Old Bob," always a great observer, would point out its excellencies to his children with great enthusiasm, telling how first coals were painfully carried from the pit's mouth all the way to the shipping vessels, in panniers or sacks on men's backs; then conveyed by horses and donkey-carts, and at last in low waggons, set on solid wheels because of their weight, dragged on stones, then on wooden rails—which primitive rail-road was thought a great advance, as the descent to the river was easier now for horses.

Then, because the uneven roads varied so much, cuttings were made, and logs of beechwood, called sleepers, of the breadth of a road, were laid at short intervals. But this was almost too much of an improvement, as in the steep places, the waggons followed the horses so quickly, that the whole affair came rolling over, like "Jack and Jill;" an inconvenience afterwards checked by a convoy—that is, a crooked lever, or brake regulated by the drivers, who could now take their coals right away, for the rails continued all along to the steep river-banks, and the big lumbering waggons could be driven right on to the wooden staith, or stage, from which the coals could be shot down a sort of spout into the open holds of the collier vessels moored below. Certainly, these sleepers were a great advance; but as "Old Bob Steve" explained to his little boy—never tired of hearing him chat on such subjects—these same sleepers were not to be relied on, being given to sudden cracking and snapping, and so causing great loss of time, and much unexpected worry and expense to every one concerned. It was as bad as the sudden laming of many horses, and caused as much consternation.

But a remedy was found, when in far-away Staffordshire, the Coalbrookdale Company discovered that they were not selling their Pigs, the value of which was going down, down, down in the market.

Pigs! What could Pigs have to do with the question of tramways? A good deal, I can assure

you ; for these Coalbrookdale Pigs were not of the succulent savoury kind, served up with sage and onions ; but huge masses of cast iron, called "Pigs," which the Works were famous for melting out of the rough ore. It was through not finding ready customers for these that that the managers had the brilliant notion of covering their several tramways with the cast metal. It might preserve the rails. Other people might follow their example. It was a good way of storing the iron, which could at any time be lifted up and sold, should customers offer.

So the wood was covered, and found the stronger for it ; yet nothing more was done till shrewd John Curr, at the Duke of Norfolk's "winnings," caught up the idea, but left out the wood, and laid down simple iron rails, even adding a ridge to guide the broad waggon-wheels. But the labouring folk thereabouts thought him far too clever, and they themselves injured in some way, so got up a mad riot, and tore up all his new rails, and burnt his improved coal staith, and would have added poor John Curr himself to the fierce bonfire, had he not escaped their clutches in the night, and hidden in the woods.

It was not easy to carry out any new ideas in those distrustful superstitious old times, as many true men found to their cost, and as George Stephenson was to prove in the by-and-by.

All such matters young Geordie must have heard talked over and over, as he ran in and out, or brought

"feyther's dinner" to the old pumping-shed, where oftentimes gathered many bare-legged youngsters, who liked to listen to the kindly old fellow's stories; for Bob, the fireman, had spent his youth in the highlands, and though an unlettered, was a very steady observant man, who had wonderful tales to tell, oftentimes of the wise-like doings of beasts and birds, whose sagacity he was for ever pointing out to the children, making them note and love such things in a way that was worth much book-learning; or he would gossip with folk, as to the doings of Captain Cook, or the best places for the finding of salmon, lately so plentiful in the Tyne waters that it might be bought for a penny a pound—yet now, as most knew, getting scarcer, because of more craft and smoke by the river side; or discuss the prospects of the Whaling Expedition just starting for Davis Straits.

On a holiday, Bob and Geordie would, hand-in-hand, ramble away from the dirt and noise and most dismal surroundings of a coal-pit, to where there were green lanes and a blue sky, together finding out bud and blossom, or home of robin or finch's workmanship, which the tall fireman would lift his little petticoated boy to peep and tell of—but not touch. No wonder that Geordie in after-life ever loved such simple things, and even in busiest hours would be ready to refer to them with great delight. When he himself grew to be an old man, with a name in the world's story, he once surprised a young trespasser in

his own fine park : a boy who was trying to carry off such a little home, but who now stood shamed, with downcast head. Yet the kindly owner of the land only said gently, as he passed by, " Don't take the nests, my lad: it grieves the poor old birds so. Come and look at them, but don't take them away. You have no cause to be afraid of me," he added, with a kind pat; " I used to do it myself when I was a boy." It was sixty years since he had been shown such things by " Old Bob," yet he had not forgotten the " Don't touch " of his father.

But about the children : all their young lives had hitherto been passed at Wylam. Now, when Geordie was but eight years old, the " Stevesons " were moved on to a one-roomed house at Dewly Burn, and here the boy obtained his first situation: that is, a widow woman paid him twopence a day to look after her cows, and see that they did not ramble in the way of the coal waggon. Also he had to latch the coal-yard gates when work was done and it grew dusk. He could play about, so that he kept one watchful eye on his charges ; and play the urchin did, in rather an unusual way, for ever making queer little engines, to work queer little corves up and down queer little pits, the whole fashioned out of clay and sticks and old corks, and all oddments that could be pressed into the service ; his surrounding of pits, and pumps, and engines was already a training. But these pleasant times when the boy could both work and play soon came to an end, for even before his sturdy young legs

could comfortably stretch across a furrow in the freshly turned field, he was leading the patient plough-horses up and down, and while most youngsters were snug in bed and asleep, this one was off and away to out-of-door work for the farmers—healthy work, luckily, for he grew stout and strong while weeding, or hoeing turnips, or tending the cattle, making himself so generally handy that the twopence was soon raised to fourpence a day, and there seemed a fair promise that he might develop into an able-bodied ploughman. In which case, I wonder what Londoners would be doing for lack of meat, fish, and provision trains, not to mention country letters and other matters.

Our young Geordie had long had a higher outspoken ambition than that of becoming an agricultural labourer. While field work had to be done, he did it in the best way he could, but even when weeding or digging, his mind ran upon gins, and wheels, and pulleys. He longed to be at engines, or colliery work of some kind; and as the eager boy watched closely for his opportunity, he naturally found it. We hear of him employed about the pit's mouth as a "picker:" that is, no longer employed in rooting away weeds and frightening away birds, but in the clearing rough coals of dross and stones—dull and wearisome work, surely, for a lively, active, quick-witted urchin such as Geordie was growing into. But he knew it was the first step and was quite content, especially as he now earned a whole sixpence a day,

doing his picking so conscientiously that he was soon promoted to drive an old blind ginney horse at a coal-pit two miles from home, which meant that young Geordie Steve could honestly earn his own living, as most of his family were doing by this time.

CHAPTER III.

FROM ENGINES TO POT-HOOKS.

"To take thy calling thankfully,
To shun the paths of beggary,
To grudge in youth no drudgery,
To come to knowledge perfectly."

Tusser.

THE first excitement over, our Geordie found that driving a slow old ginney horse round and round in a beaten track, or "gin race," was a slightly monotonous occupation. The gin itself was a sort of big drum laid on its side, about which drum wound ropes, that, as the horse moved in its circle, brought up to the earth's surface the big clumsy corves, or baskets, filled with lumps of freshly "won" coals. In all large collieries this slow and clumsy gin system was going altogether out of date, steam-engines taking their place—engines in which of late all kinds of wonderful improvements were being constantly made. But our busy lad had nothing to do with such engines as yet.

Twice every day Geordie had his two miles'

walk to Black Callerton pit and back; and his sharp blue eyes knew how many eggs were in every bird's nest, and he would whistle and sing as he strode off to work, while the early morning thrushes and blackbirds whistled and trilled at dawning, peeping over the green hedgerows, as though to encourage him for the long day's dull labour; that done, it was a race and a scamper back to the home at Dewly Burn, where a family of tame birdies or of pet rabbits awaited his never-failing care. Altogether, our little sunburnt gin driver was a happy, busy boy—though ignorant as yet of all things but the art of modelling engines out of lumps of bog-clay—as could be found in all Northumberland.

When Geordie was fourteen, an event that he had long hoped for came about. Instead of trotting round and round after his old ginney, the civil, industrious lad was taken on as assistant stoker at the big Dewly engine furnace. He was very proud of the promotion. This working under Old Bob's wing all day long was what he would have chosen to do, yet he was in a constant terror lest he should be thought too young for such an important post, so when any one in high authority chanced to make their appearance, Geordie would hide shyly round corners, that his juvenile appearance might not strike them, and, maybe, stop his shilling a day. But no such ill-luck happened.

As time went on he became more confident, for he grew bigger and stronger every day, and soon excelled among the other youths in all their out-of-

door games, "throwing the hammer" with the best of them, and easily lifting heavy weights they could scarcely stir; but he never let such things interfere with his daily task. Everybody knew lively civil Steve for a steady, hard-working, good-natured young fellow, and every one was glad for him, when one pay-day he came running out among the other workers, waving his cap, and crying joyfully, for all to hear, that he was "a made man." No doubt he felt very old and rich just then. Geordie was not seventeen yet, and his wages had just been raised to twelve shillings a week. Think how satisfied he was.

Let me mention here that you may sometimes find our Geordie Steve described as a pitman; yet he never was that; his regular work began at the engine fire above ground—not at a trapper boy's dismal task below it, or he would have had to pass on through a regular gradation—to have been rolley driver, lamplighter, switch keeper, bell ringer, trumpet blower, wood leader, small leader, butty, hewer, onsetter, cranes-man, waste-man, deputy, back overman, far overman, underviewer, and overviewer; for in this great hidden battle array of toil there are as many promotions as in the army of red-coats above.

No; Geordie when he left his ginney, became a "plugman," that is, he had to keep the engine in good working order, and to take care its works did not get plugged up anywhere; and if the water did not come up properly, he must go down into the shafts and see

what ailed the machinery. When all went well he had plenty of spare time to waste or enjoy; this time Geordie employed mostly in polishing up and examining his engine, and in longing to understand such things better. The Newcomen engines, such as Geordie studied and worked at all day long, were as yet clumsy enough, but not quite so bad to manage, as when Humphrey Potter attended to one of its kind.

Who was Humphrey Potter? Only an idle, yet observant lad, who often would fain have indulged in a game of hop-sotch, in preference to continually having to keep eye and hand on this engine of his, whose monotonous movement nigh crazed the impatient boy; for you see there were in all engines certain stop-cocks which must be opened and closed no less than fourteen times a minute, first for the introduction of steam into the cylinder, and then for injecting a cold shower for condensation; and all opening and shutting, of course, required the closest attention from any individual who undertook their management—a care that Master Potter grew impatient of bestowing, the more especially as there was no one by to note his occasional absence, supposing always that the tiresome machine could be made to spare him, and yet to do its work all the same.

This boy set his wits to work that he might possibly idle with others, for Humphrey was an illustration of the old saying, "One boy is a boy, two boys are half a boy, and three boys are ne'er a boy at all."

He industriously and thoughtfully examined all the ins and outs of his steaming tyrant, but all his observations resolved themselves into the simple fact that of these two stop-cocks, one required to be regularly opened just as a certain beam terminated its descending oscillation, and that it required to be closed precisely at the terminating of the opposite one, the management of the other stop-cock being of precisely a reverse kind. Having cleared the difficulty in his own mind, Potter set to work, and added what he called a "scoggar"—to "scog" in the North implying to sulk—tying cords to the stop-cocks, some to one end of the handle, some to the other, for it had dawned upon him that as the position of the beams and the stop-cocks depended on each other, the beam might serve to impart to the rest of the machine all the movements required of them. Then he artfully tied his bits of rope here and there about the beam, so that in ascending they pulled one part of the beam, and in descending another part, and after much shuffling and re-arranging they finally did his work—passing regularly up and down, up and down—while the boy rushed off to play, little heeding that he had been the first to discover how to set a steam-engine working all by itself, to the great gain and benefit of many. For it needed no one's attention, but only a fireman now and then to feed the furnace and keep the boiler going,—not, of course, that old bits of rope were ever patronised by any but himself, for soon

engineers substituted rigid vertical rods fixed to the beam, and these were armed with small pegs, which pressed either from above downward or from below upwards, and so turned the stop-cock or valves; and even these have been replaced by simpler contrivances.

But our Geordie, instead of avoiding, made a sort of pet of his engine—one to be kept bright and free from ailments common to its kind, if not well seen after—and as he oiled and rubbed, and screwed and unscrewed, he pondered much over its ways, its pistons and levers; on the steam—its life and breath, and the “why” of its constant and untiring power. How he envied the folk who, as he was told, were always busy with engines, and knew all about it: Watt, and Crawley, and the rest, of whose inventions he heard—lucky folk, who could read clever science books that answered and explained all sorts of things; while he, a big fellow and strong, could not tell A from B, and so would never be able to solve the mysteries that so interested him. He could but go on making clay models of parts of engines, even as he had done when a child at Wylam—he might as well be still a child.

At length Geordie determined that he must learn to read and to write, and as he was far too sensible a lad to be mastered by the false pride that might have hindered him beginning, because of the shame of taking his place at the foot of the lowest class, he attended the night-school, where, for threepence a week, he learnt to spell and to pot-hook, along with

little lads and lasses, who pointed the finger of scorn at this big dunce from the engine-house. He did not get on very well here, because Robin Cowan, the teacher, knew so remarkably little himself. Luckily, a Scotsman came that way, and set up a class quite near Jolly's Close, where the Stephenson family now lived, and George and young Grey, the fireman, at once came to him, paying a whole fourpence a week each, but learning figuring, an extra to which George took wonderfully—getting into reduction, whilst Grey still stuck fast at division. But then, see how he worked at these things—doubled up over his slate at every spare moment, chalking them with a handy lump on every waggon or wall; carrying sums backwards and forwards from the night-school to the engine fire, working them out even through the long hours of the night, while the engine, being kept in such order, did its work steadily.

When the sums were too much for him to master, he would turn his attention to the study of braking, that being the next step upward—he was always looking up—and laying his slate aside, coax Bill Cox into teaching him the art and mystery of managing the machine used for drawing up coals. This he soon accomplished so well that Bill would let him work it, while he looked on, giving directions which he knew would be most attentively obeyed.

Some of the men hereabouts tried all they could to hinder, being too idle or clumsy to attempt such things themselves; yet the manager had eyes upon

this persevering youth, and paid little attention to their remarks and sneers concerning George, but as soon as he was twenty, sent him off as brakesman at the Dolly Pit, at Black Callerton—where, I must mention, the dominie, Andrew Robertson, disgusted at losing his best pupil, and having but few besides in this little place, soon followed, setting up his small night-school near, to the great rejoicing of our George, as yet thick in the mysteries of learning, but now able to sign his name plainly in big round hand.

CHAPTER IV.

AT THE PIT'S MOUTH.

“Follow the horses, Johnny, my lad, oh!
Follow them through, my canny lad, oh!
Follow the horses, Johnny, my lad, oh!
Oh, lad,—ly away, bonnie lad, oh!”

Colliers' Ditty.

THE “made man’s” business at Callerton was to work the engine that, in lieu of a slow horse, aided in the descent or ascent of coals or men—not quite as dull work as ginney driving, yet no very cheery task at its best, for the mouth of a coal-pit was ever about the most sombre and desolate place one can well imagine, ashes, slag, and broken stone lying piled everywhere.

At night the wretched scene was but partly lighted up from above, by the flames streaming

crescent fashion from an old grate, and giving, amid its streams of yellow smoke, glints and glimpses at the gaunt, shadowy figures of the colliers coming and going to their work—showing now their shining eyes and white teeth, then glaring strangely on red lips and on blackened faces, that seemed to belong to evil spirits, imps, and kobalds of the mine, rather than to honest, hard-working, if rough partners, workers known to each other as “marrows” and “foals”; or darkening, maybe, over the pale-faced stunted hewers and pickers, whose dreary lives underground were sorrowful to think of, though they came and went cheerily enough, poor fellows; stolidly unmindful of the weird scene in which they figured, and the perils that circled them about from day to day, being from their youth up used to nothing else, and little likely to have better or happier experience; for, as the colliers’ apt saying goes, “Once a pitman, always a pitman.”

Sometimes it happened that smug, neatly dressed townsmen from the south, came marching boldly to the pit’s mouth, and Geordie would laugh slyly with the rest, to see how seldom they cared to step into one of his ready, clumsy corves, and descend into the underground world, their sudden anxiety being to get away from the dismal place as soon as possible. Many were the droll anecdotes connected with such visits that pitmen loved to tell. One of the last was concerning that famous London clown, Grimaldi, who only lately, had so highly delighted the canny folk of

Newcastle with his tricks and quips. He had ventured into a basket, and been brought down some three hundred feet, where an on-looker had taken him in kindly charge, proposing to show him round the dim workings spreading underground in every direction.

Now, of course, a clown who can tie himself into knots, and roll and tumble with his head under his arm, turning about as Grimaldi could, laughing all the time, being also used to noises, thwacks, and thumps, is not supposed to be afraid of much. So his guide was quite surprised to notice how dismally grave he looked now. However, he followed some time, and seemed reviving somewhat, when down with a sudden bang came tumbling a huge mass of coal, weighing some three or four hundred-weight, which mass smashed itself all to pieces exactly on the place where our celebrated London clown had passed two minutes before.

"Hallo! What's that?" he cried, stopping short as though he had been shot.

"That? Hey, that? It's na but a wee bit o' coal fallen doun. Why, mon, we ha' that happen twa or three times a day," was the guide's composed answer.

"Have you, indeed!" cried Grimaldi, running as fast as he could run towards the shaft by which he had descended. "Then, my friend, I'll just trouble you to ring, or call—or whatever it is—for my basket. I'll stop here no longer." And go up he would, and did, evidently horribly afraid of another "wee bit o' coal happening" before he could get away.

To one of these same Newcastle pits came, later on, no less a personage than the powerful Czar, Nicholas of Russia. Stout and stalwart, and afraid of few things, he, being in the neighbourhood, announced his imperial intention of descending into one of the numerous coal-mines whose peculiar shafts had attracted his attention; and ignoring all strong hints to the contrary, his Imperial Majesty proceeded at once "to bank." But when he reached the forlorn place, and peered down the narrow, close-smelling, and dismal orifice at his feet, and heard the wheezy creaking of the engine bringing up a rough corve or tub for his special benefit, the Emperor stepped quick back, "loike a scadded cat," and declined to venture into what he bluntly termed the "infernal regions."

At such a lively place was brakesman Geordie now daily busy. The corves, having been piled below, were placed in a big cage at the end of a chain, which chain, being wound up, brought its load to be swung out on the settle-board above, and was then returned laden with empties. At night, men or mining materials were sent down or drawn up. As a rule, the pitmen did not commence work until after midnight, when a big jangling bell gave its signal for the night-shift to begin. Some of the tired workers, many of whom were mere boys, and heavy with sleep, never heard it, and had to be roused by paid "callers up"—old men, carrying long willow rods, who went round in the

black night, tapping at cottage door and window, while calling lugubriously in the darkness:

"Get oop, get oop! to wark, i' th' name o' God, honey! Get oop!"

A summons that must not be resisted, or the day's pay was lost to the laggard.

Of course the brakesman had to do his work carefully, for the pitmen's safety depended on his steadiness. They were apt to grow heedless enough, and careless of risk. It was told of one of these pitmen how, on an occasion, he and his son Bill, being drawn up together—the father in an empty cage, the boy perched on its bow, and holding on to the rope—had arrived within two fathoms of the top, when in an instant, through some sudden jerk, the poor lad was thrown off his perch, and flung straight back into the darkness of the pit below; the next instant the father was landed, and burst, not into tears, but into ugly language, directed at the brakesman's clumsiness, winding up with an injured—

"My Billy's gyen. He always wor a hempie (rogue), wor my Bill!"

As to the said Bill, he had saved his life only because he had dropped straight down into a deep mass of soft black sludge, where, being senseless, he might soon have choked, had not the watchful onsetter, seeing something unlike coal fall from above, raked it out with a big hook, and discovered the helpless boy. Another "hempie"—Bill's younger brother—was

shortly after caught through the thumb by one of the corve hooks, and so lifted up bodily to the earth's surface, where he scrambled out, startled, but not much injured.

George's task as brakesman, though it required watchfulness, left him a great many unoccupied moments, during which he worked away with his chalk, summing and spelling; then turning from these to sewing on buttons or making button-holes for the bachelor pit lads. Next he practised tailoring and cobbling, first on his own and then on his neighbours' shoes, at which last, growing quite an expert, he soon earned many an odd shilling, that was not wasted, as most odd shillings about here were, in cock-fights and drink-houses—Geordie saw too much of the folly of unthrift—but put by and garnered for a purpose that was dawning on Geordie Steve's mind—a lively young fellow now, with plenty of fun and frolic in him, who could bravely join in out-of-door sport, could leap or wrestle, and liked such things, for all the rather sedate manner in which he dealt with the reckless, loud spoken, foolish and rough pitmen, though they liked and respected him and his ways.

One brawny fellow, Ned Nelson by name, took a violent dislike to his quiet self, hating him with loud out-spoken, foul-mouthed intensity: no one, not even Ned himself, knew why or wherefore. Now, a known bully generally seeks to justify himself, so this one went about vowing that "yon Stevenson," the

brakesman, had tried to let him (Ned) fall back into the pit, and that he was in no way fit for the situation.

"Every one here knows it's false," said George, appealing to those about him. But though every one did know it, no one dared to say very much, because big Nelson was a regular fighting man, and, truth to tell, got pretty much his own way here because of his heavy heels, his fists, and his bragging tongue.

"It's true; thou'st afeard o' feighting, but I'll kick thee instead!" roared big Nelson, making a dash at the young brakesman. Those present interfered so far as to hold him off his intended victim; the said victim seemed, however, in no way inclined to fly, but, to every one's surprise, composedly offered to meet Ned, and publicly "feight it out," as he wished it, on the Dolly Field pit. That being settled—for fights were common enough hereabouts—George went on with his work just as quietly as usual, though he could not but be aware that his acceptance of Ned's challenge had caused great excitement. Some, having a vision of broken bones, said, "Gi'e it up, lad; don't 'ee feight." "You let 'um talk." "It'll be reet for thee."

But the brakesman only answered them very quietly, "I will feight him; but never you fear for me."

Meanwhile Nelson stayed from his pit work and kept almost sober, that he might be in better trim to silence this cool, impudent young fellow he had so publicly provoked. He came early into the field on the day appointed, swinging his muscular arms, and

boasting to all Callerton there assembled of what he would presently do if this Stephenson dared face him; and Stephenson, having finished his usual work at his usual hour, appeared with a few friends, stripped in the usual manner, and straightway fell too at his first and last fight, striking out sledge-hammer fashion, yet in the most inexperienced style possible, but, wonderful to say, thrashing the pugilist in the most decided and practical manner, then offered to shake hands and forget all grievances.

Black Callerton rejoiced, and Ned was silenced. The youth conquered in this apparently unequal battle he had been forced into, just as, later on, he was to conquer in many struggles of a very different kind. Like Bunyan's patient yet strong hero, Christian, he was to be opposed by pride, avarice, superstition, vested rights, what not, all waylaying and preventing his dreaded advance at every turn. Just as he had a few sympathising friends about him to urge him on, or to pick him up, as might become necessary, in Dolly's Field, so by-and-by he was to find a few enlightened spirits who believed in him, and with him, even in the darkest hour, when the clouds seemed to have no silver lining, and all was doubt and vexation.

This difficulty over and done with, things went on peaceably enough, until at twenty-one, because of his ever steady diligence, our George was promoted to the entire charge of the fixed engine on Ballast Hill—a strange, dingy place; for this hill was literally a mighty

mound of refuse ballast, which had been shot on the shores of the Tyne, for many years, from the holds of vessels that had sailed from London to Wilmington Quay, the ballast being thrown out of the holds into open waggons brought alongside, the which waggons were next linked together and taken to the top of the hill, where their lumbering contents were tipped out, adding to the monstrous accumulation, at the base of which was the engine George was to preside over.

In front of the hill lay the river, and very near to it, a few little houses, with bits of gardens, on which houses our young brakesman looked with interest, for he thought he might venture to take to himself a wife. So it was, that, having chosen a room in one of the pleasantest cottages, and furnished it as best he could, even to a tall clock in the corner, the young brakesman went joyfully a-wooing, perhaps in the words of the "Collier's Wedding," a ballad at that time familiar to Northern ears :—

"My comely Fanny—

I love thee better far than any.

If thou'lt ha' me, faith, I'll ha' thee,

And love thee till the day I dee.

I'll wark my bones to mak' thee easy,

Do everything in life to please thee ;

Baith morn and eve I'll do my duty.

Come, speak—I canna leeve without thee."

When he heard that he was to live at Wilmington, all his thoughts had instantly turned to a good and bonnie lassie, well-behaved and mannered, for all she

was but the serving-maid at a small farm. George had said nothing while his position scarcely allowed him to think of a home of his own making, but now he was rising in the world, and earning lots of little extra sums by his shoemaking abilities. Had he not mended one of her shoes, and walked about with it nestled in his pocket all one summer's day? taking the little clumsy thing out every now and then to delight in it because it was gentle Fanny's, touching it reverently, even as a true knight of old touched his princess's token, and taking pride, as a modern handicraftsman, that he had pieced it so neatly.

I like to picture the wedding of that sober, earnest, God-fearing young couple. How, when the day was full of sunshine, they came walking in their humble best: they, with Robin and Anne, bridesman and bridesmaid, through the pretty village of Newburn, where so many keelmen's families, and Tyne fishermen, and colliers dwelt in tiny one-roomed houses, perched in all sorts of unexpected nooks and crannies. There were plenty of little gardens and orchards, and a big rustic watermill, the like of which could not be found easily now-a-days—all making amends for the inevitable black pit's mouth so grimly gaping, and tall chimneys starting up in more than one direction; yet all unheeded by our small party as they passed on to the old church, which still stands on the very site of the one given in the long ago to the pious priest of Saint Nicholas: the very church into which

Osulf, the banished Earl of Northumberland, drove his rival Copsi, with all his fighting followers, and then set fire to and burnt the whole, church and people and all—a dreadful tradition, surely, only fit for the times in which such ill deeds could happen.

Better Newburn folk liked to tell how once the sleepers hereabouts were startled out of their dreams by the slow solemn sounding of the old bells, tolling even as for a passing soul, which at that late hour it might not be, at least by earthly hands. One after another the dismayed, superstitious villagers rose and went forth to discuss this strange omen, for these were days when all such startling things were of solemn import. They fetched the parson, but he, worthy man, dared not venture into yon dark building, where evil spirits must surely be busy; so there they clustered, staring up at the church tower, pale with fear, little wotting how next to act, while overhead steadily tolled that ominous bell.

Every one said the mystery ought certainly to be fathomed—yes; but how? At last it was remembered that a recruiting party was carousing at the inn yonder, and that such fighting men, being also pot-valorous, would most likely not shrink from mounting into the belfry to clear it of its uncanny ringers, or, at any rate, protect the parson, if the task were one he might undertake. So the din continuing, our recruits were fetched out, most of them suddenly sobered by the proposed task, and only willing to

follow if led by priest and clerk, and supported by the villagers. The procession being thus formed, they all advanced into the church, and presently pushed one another up the narrow stone steps.

At the top, a tall dark figure was crouched, that sprang at them, and shrieking, sent the first comers backward, except for the crowd pressing behind. Then it uttered a loud, thrilling "Ha ! ha ! ha !" and it once more began at the bells ; then those of Newburn, though not the men of war, knew that it was poor idiot Tom, who had hidden himself up with the bells, with the sound of which he was ever familiar.

All this time we have left our wedding party ; but they have had plenty of leisure to take each other "for better, for worse." George has carefully signed his name in a big, round, schoolboy hand, leaving a blotch, which he is rather inclined to blush over ; yet remembering thankfully that, after all, two years ago he had but just begun pot-hooks. Then Fanny, the little bride, adds her name—or, as some one hints, he adds it for her, because of a special reason of their own.

Husband and wife pass out, away across the daisied churchyard and through the village, not yet to visit their own new home by Ballast Hill, but first to that of the dearly cherished, but ageing parents—Old Robert and Mabel—where, though we cannot see it, there is much tearful, loving blessing and hand-shaking, and maybe a little humble feasting ere they depart for Wilmington, which is some fifteen miles away. This is too

far, for sure, to walk, especially on such a special occasion ; so they travel as such honest country folk do, that is, a kindly neighbour brings his two horses, each ready with saddle and pillion, and the sweet bride mounts Dobbin, sitting behind her happy George, clasping him close for safety's sake, while next come riding Robin and Anne, the attendant pair of well-wishers.

CHAPTER V.

SUNSHINE AND CLOUDS.

"What's Genius?" quoth Jack.
Quoth Tom, "I can't tell,
If it be not the knack
Of doing things well."

A VERY happy couple, these two, in the humble home shadowed by the high Ballast Hills—a home which Fanny's willing hands kept so neat and trim, and in which George the engineman spent every leisure moment, doing whatever thing profitable his hand found ready, and doing it with all his might ; yet for all that, studying in a wise-like way, and with a steady determination that puzzled his easy-going mates not a little. Even they could soon see he did not intend remaining a mere common working-man, for already he talked of things they could not in the least understand. He knew something of mathematics and mechanical wonderments, but still only enough to make him long

to learn more. He was for ever trying to find out facts connected with engineering and machinery. Then there was Perpetual Motion. What was that? How could it be brought about? Who could help him ever so little? No one here even knew what he was talking of. I am not sure some of them did not set such fancies down as rank nonsense and waste. Yet he had somehow heard of such things, and was for ever trying to find out more in a blind, groping sort of way; for at Ballast Hill, or even Newcastle, in the times when a small daily newspaper cost sevenpence-halfpenny, there were few attainable books, and certainly none on the special subjects that most interested our young thinker, even if he could have managed to understand them, which is very doubtful, seeing how lately he had learned to read, and what an elementary, scrappy, listless kind of literature had hitherto come in his way.

However, no difficulty could hinder George trying to understand scientific matters. This Perpetual Motion, for instance—he never would let it alone, going to the length of buying tools, and constructing a wonderful thing of wheels, and glass tubing, and shining shifting quicksilver. At last the biggest wooden wheel turned, and turned, and turned ceaselessly, until it stopped, and so put an end to his rising hopes, though not to his efforts, for the puzzle of it haunted George many a day, as did most of the things he wanted to know the “how” and “why” of. But do not think he neglected his every-day task at the engine

for any of these interesting researches. Nothing of the kind ; for when his day's work was done he would often take a big spade and be off to the collier ships, to find if an odd shilling or two could be earned by clearing coal or ballast out of the hold. Hard work this—yet Geordie's hands being busy never kept his head empty, now or in the future ; so it was that whenever any kind of opportunity did occur, he was ready for it.

A little time after they were comfortably settled in their home by the quay, George began to be recognised thereabouts as a local clock doctor, yet, strangely enough, it was through an accident more calculated to put a man at odds with his temper and his wife than to set him making money, that Geordie became a clock doctor in addition to his other industries. For it happened that one day Fanny letting a frying-pan boil over, the chimney flared up all ablaze, and, as a local fire-machine had never been so much as thought of, the neighbours rushed from all directions, carrying jugs and pails of water, and directed the contents with such energy that the fire was soon extinguished. But, hey me ! the furniture was all damaged, and the big clock seemed silenced for ever, choked by smoke and steam, which it had been forced to swallow during that battle between fire and water.

Mistress Fanny was in despair over the damage, but George set about mending matters very quietly, as was his way. He took the poor dumb clock all to pieces, and peered and poked among its intricate

wheels and springs with great interest and curiosity, having never seen into the interior of a watch or clock before ; then he proceeded to clean each clogged and rusted part, and finally to put the whole together again so deftly that the clock went as well as ever. Fanny stoutly declared better ; but then the bonnie young housewife naturally thought all her husband's doings perfection, and was ever ready to praise him.

This job had given Geordie all the practice he required at present, and from that time every wheezy Dutch clock and big turnipy watch in any way invalided was brought to the cottage, the "doctor" charging a regular fee, or restoring them almost gratis, as the case allowed ; any way, he did his best with them ; for then, as ever—pay or no pay—he hated what he termed "flash work." So, in time, having many customers, he grew to be really a good hand at watch-making, and studied its details closely : so closely that when in later life he chanced, while on a journey, to speak on the subject, some one asked if he were a watchmaker, and others who knew wondered how it was possible that a man whose life had been so engrossed with engineering matters could have possibly found time to acquire all this practical knowledge on so intricate a kind of work and one in no way connected with his own.

Said the simple-hearted, yet world-renowned, prosperous gentleman, speaking with the Northumbrian "burr" that had never left his tongue:—"When I

was only a workman I used to clean the pitmen's clocks and watches, and so made a little money in my spare hours, and since that time I have kept up my information on the subject."

Perhaps it was on this same journey that the "Father of Railways," whose privilege it was to travel without a pass on every line in England, was stayed by a smart new collector, who barred his way, shouting "Tickets!"

"Why, don't thee know me?" asked Stephenson, smilingly, being so used to recognition in such places that he accepted it as a matter of course.

"No, I don't," was the sharp, gruff answer; "who are you?"

"I am the man who made jobs for all such fellows as thee," was the calm and crushing retort.

But I am going far ahead in my story, and this is all through a spoiled clock; yet, as I have rambled on so far, let me also tell how from using a big heavy spade in the holds of collier vessels, at the time he lived at Ballast Hill, George learnt that there was a right and a wrong way even in so simple a matter as digging, and, remembering this, was many a time able to give a lesson to the slow-witted navvies on foreign lines—men who generally did their work in the clumsiest fashion, and who wondered mightily when this well-dressed, unassuming English gentleman would take the heavy spade out of their dingy hands, and proceed to fill a barrow in an altogether new and easy way, which

had never suggested itself to men who only worked with their hands, but never with their heads, as he had done in the long ago when as poor as any one of them—a time which he never scrupled to talk about.

Now let us go back to Wilmington Quay, to the happy one room, where Fanny is proudly keeping house, and George is working all day at his engine, and at night at shoemaking, at clock-cleaning, at tailoring, or, in fact, at anything his hand finds to do, filling up odd moments with such reading as comes in his way, and experiments that often prove failures for lack of the little information or the simple means just beyond his reach ; yet he never makes trouble out of such matters of course, but goes on cheerily, hoping for the best, and quite content to work and wait.

From the first, George seems to have had one great gift—one that neither man, boy, nor girl need think lightly of possessing. It was that of making friends of the best among those about him. So it was at Wilmington, where his most intimate acquaintance was a young working apprentice from Manchester—Will Fairbairn by name—a youth fond of reading, who loved nothing better, when he could be spared at the Percy Main Colliery, than to come over to the little tidy cottage, and on a summer evening to sit talking over any scrap concerning scientific matters or new discoveries that might have reached either of them. George all the while would be patching and hammering at the neighbours' old boots, or

even making new ones when he got the chance of a customer, strong and sound boots, though, perhaps, a little clumsy; while Fanny would be sewing or getting the supper ready; or perhaps, by way of a special treat, cooking a few singing hinnies—that choice northern delicacy compounded of flour, butter, and currants, baked brown on a girdle.

Sometimes, as I have told, it chanced there was nothing to be done at home, and that there was a laden ship lately come into the harbour; on which occasions Will would gladly work at George's engine, while his active friend flung aside his apron and awl, and went off to heave ballast for an hour or two. Such trifles are scarce worth mention, you may think; yet there came a time when Mr. William Fairbairn, C.E., President of the British Association, loved to remind his old friend, the respected founder of the flourishing railway system, of those long-vanished, happy days when they were both so busy and hopeful, although they were but two very humble and ignorant working men, and apparently little likely to make any mark in a world of whose great achievements they knew naught, having only a surrounding of pitmen and their frowzy belongings—men who lived out their drunken, honest, working lives without one thought beyond "whee puts and hews best," and a great resentful horror of Bonaparte, whose warlike doings were casting a disquieting shadow over the land.

So time passed on until, in October, 1803, there

was great rejoicing in the little home of the Stephensons over a delightful baby boy, to be called Robert, after the dear old man at Jolly's Close, whose pet and darling he was long to be. Robin and Anne came to see the christening, and for a short time there was indeed blissful sunshine over Geordie's home. The twain were so happy over this added blessing; they even made small trouble of removing to Killingworth Collieries when work ran short at Wilmington Quay.

Suddenly a cloud, black as night, swept over all; the fond and faithful young wife drooped, and faded, and died, while yet Robert was but a wee toddling helpless baby thing, laughing and crowing in his widowed father's arms. And here let me say that, though years after he married again, our Geordie was so loyal and true to the memory of this dear Fanny, the wife of his youth, that in the hard time, when Robin, their humble bridesman, grew poor and troubled, he kindly assisted him, and finally left him a pension for life; while, when the death of Anne's husband (Farmer Patterson) left a large little family all unprovided for, "George struck in fayther to them," as the country people phrased it in their simple fashion, which "striking" needed no comment except "for her dear sake."

But at first it seemed as though all George's hopes were ended by this blow. His heart was so sore, he could hardly bear even to look at the pretty child she had loved; and placing it in safe charge, he under-

took some work in Scotland, for which place he set off afoot—tramping, as poor folk had to do then, carrying their clothes in a bundle. He stayed away, working hard for many weary months, trying to forget. Then with a few pounds saved, and a great longing at his heart to see once more his home, parents, and his little boy, he tramped back to Killingworth, a long, wearisome journey, at the end of which was much sadness—for poor "Old Bob" had been blinded through an accident, and, being unable to work, was nigh starving.

Our George—ever a fond and dutiful son, as a good man is like to be—at once found a home for the forlorn old couple near his own at Killingworth, and never allowed them to want, even though the hard times grew harder day by day, all because of these terribly expensive long wars with "Boney." Not only was work very scarce, but peaceable working men were in constant fear and danger of being slyly entrapped and pressed for the Navy, or drawn for the Militia, and made to fight—although they had the greatest horror of so doing, or had dear ones dependent on their labours. So it happened to poor George, who was pounced upon, and had no choice but to go at once to the wars, and leave his parents and motherless babe all unprotected to starve, or else pay even to his last hard-earned pound to provide a substitute, and this he did.

Well might this unfortunate fellow despair now, for what to do next he knew not. He could get no work hereabouts; he was all but penniless. His

pleasant home-life had all passed away as a dream with his sweet wife's hopeful smiles and aid. Nothing now but cares and responsibility. He heard that he could get employment in America, and would have travelled there in search of a livelihood; but such a far journey cost much money in those days, when emigration was not arranged for. Unlucky, almost heart-broken George! No wonder that in the bright, soft, pitiful starlight, the lonely man, hitherto so strong and brave-hearted, felt hot, despairing tears rise from his sad heart to his eyes as he walked alone in the gloomy shadows of the huge "fiery heap" near the now desolate house that had once been such a happy one; or that he shrank from a future so uncertain.

But as time passed on, the heavy clouds lifted somewhat. His good name for skill, and reputation for sobriety and steadiness, got him the situation of brakesman at West Moor. Then, too, his growing, bright-eyed little son—his Fanny's boy—clung about him, and warmed his heart again. Once at work, the old mechanical instincts awoke within him, and soon observing that the pulley ropes at this pit wore out too quickly, and so caused a great loss of time, he brought all his quiet ingenuity to remedy the defect, which was done so cleverly that the colliery owners found themselves gainers in every way by the alteration.

Other improvements he planned, giving his whole time and close attention to the engine and its work. Again he took to puzzling as to the "how" and "why"

and to the planning out alterations and improvements in its parts. On Saturday's half-holiday—when the pit stopped work, and men went to cock-fights and public houses—instead of rushing off as early as he could, George would give himself the treat of taking his engine to pieces, examining and cleaning and polishing each part, mastering its uses and details, even as he had done his damaged eight-day clock, and then putting them all together again, while turning over in his busy mind what could be changed for the better.

Most folk have found out that when a patient, industrious young man stores his mind with knowledge of any special kind, and goes on adding to the store, even as a bee adds honey to the hive, and with all enjoyment in so doing, there is sure to come a time when that same patient man will find that his special knowledge makes him of use and value among his fellows. So it was with George Stephenson. Because of his untiring attention to the "why" of machinery which did not immediately concern him, came his first great opportunity. It occurred in this wise:—

At the Allies, or Killingworth High Pit, was a fine Newcomen engine—intended, of course, to keep the pit clear of all water, but somehow or other not doing it, for all she had been tried over a year; and every man from far and near, known to be extra skilled in such work, had had a hand in persuading her to do the task required. As a matter of course, our George had often come and looked at the huge and expensive

failure. He had even at its first appearance on the scene humbly ventured an observation, to the effect that he saw plainly she would not do at all as she was now placed—an observation that was straightway roughly pooh-poohed by the authorities ; because what could any ordinary brakesman know of the working of an atmospheric engine ! Just so. Any “ordinary” brakesman would have known next to nothing—it was not his business, therefore no concern or interest of his ; so any engineer would have told him had he needed reminding of such a self-evident fact.

But day after day went by, the workmen were still “drowned out,” and the baffled owners of the “Grand Allies” in a dreadfully low state of mind and pocket. Everything had been tried that could be tried, everybody was disheartened and “clean bet ;” but George, as he worked his brake, kept thinking the difficulty over, and settling it in his own mind. He sincerely believed he understood clearly where the trouble lay, and longed to remedy it ; but having been so snubbed he “bided his time,” only now and then going off to Killingworth to take another peep at the pit and at the disconsolate workers about its disappointing engine.

“Well, Steve, what do ye make of her ?” asked one of the men who knew something of the qualities of the young brakesman of High Moor, and of his knowledge of all concerning engines ; and when George stoutly declared that if he might but have his entire way with this one she should pump up, and the descent be

safe within a week at most, the man reported his speech to the head viewer—now almost out of patience with the whole affair and inclined to try any new plan, even that of this enterprising brakesman—who promised to effect in a few days what the skilled engineers had quite failed in accomplishing in so many months. It was worth the venture, so he met George and asked him if he really meant that he could set the troublesome engine going, and in a week.

“I think I could, sir,” was the modest, yet assured, answer; and having arranged that he should choose workmen for himself, as some of the hands would be sure to object and rebel at taking orders from, or working under, any but a professional engineer, much more one of themselves—a nobody, a mere brakesman. George, having already planned the work, soon set to it with a will, making all kinds of unexpected and unprofessional alterations, and doing all sorts of things with the pumps: enlarging, raising, changing here and there, and altering the pressure altogether.

In three days quite a crowd—credulous and incredulous, for the thing had been much discussed— assembled to see this engine work, which it did so well, that after pumping for two more days all the troublesome water was gone, the pit was clear, and the men were able to descend in safety and comfort: even as George had declared they should do before the week was out. It was a grand and unquestionable success, of which there was much talk and applause.

Lucky George—he had met with his opportunity, and, through much previous thought and preparation, been quite equal to it. It brought him but a small sum of money, but the fame of it soon made him engineman, and afterwards engine-wright, at the High Pit, Killingworth—well paid and honourable situations compared with any he had yet held.

All this time baby Robert had been growing in sense and stature. By now he was a fine, rosy, intelligent lad, never happier than when in his father's company, or occupied in some busy, useful fashion suggested by that watchful father, who, because of his own great lack of learning, was naturally exceedingly anxious that his little son should have the advantage of as much schooling as possible. But to keep the dear old folk comfortable in Jolly's Close, and to educate young Robert, was more than he could yet well accomplish ; so, as of yore, he worked at home in all his spare moments, again mending the pitmen's shoes, or their clocks, or their clothes ; and, when presently he was able to earn for his Robert a little donkey, on which to trot off to a day school at Newcastle, it was the fond father's own hands that fashioned the neat grey suit of homespun in which the little boy made his appearance among the smart young town lads : all so different from those at home.

At first all were unpleasantly inclined to make the new-comer's countrified talk, and shy, g ways. But as they soon discovered that he

was ready to take their rough jokes good-naturedly, that he knew a lot about birds and their ways, could fish and climb, and was a regular "nice fellow," as well as a steady scholar, ready to help and be helped, they admitted him as one of themselves, and now he was as happy and contented as any school-boy can be if he chooses to have patience for a short time; besides, this one already understood the value of his father's motto, "Persevere"—at any rate he early practised it and profited by it.

Every afternoon the fat little donkey came trotting along with Robert, well laden with school books, on his back; and they would linger sometimes to visit the cosy house at Jolly's Close, Neddy being driven right into its one room, to be the more easily petted and patted by the blind old grandfather. Then there would be a scamper home, where father was busy as usual with thread or tool, and next conning and study of lessons, which, when they reached mathematics, especially profited father as well as son; for George, as we know, lost no opportunity where learning was concerned, and his clever boy could not please him better than by describing some of the wonders he had read of in the few science books on the shelves of Newcastle Library, or by showing him little sketches of plans and designs which, by his father's aid and explanations, Robert grew quite clever in drawing.

Sometimes on half-holidays the young school-boy brought home a book, such as Ferguson's

Astronomy, over which they both pored with great delight, and, after reading which, they conjured out a sundial—a thing neither had seen nor heard of, and which, when placed over the house door, was an object of much speculation and surprise to the rude pitmen thereabouts, and which still points its silent warning to all who pass by the West Moor Pit, Killingworth. They two worked out sundry other clever ideas suggested by this same Ferguson, whose book interested them all the more that it was written in simple, though learned, fashion, by one who, in his early youth, must have been even poorer and more ignorant than our Geordie Steve: a lad also who had evolved models of mills and engines out of the lumps of putty-like clay, picked up and shaped, as the poor labourer's little son roamed about, minding cows or sheep all day; and at night had taken observations of the heavenly bodies, stretched on his back on the grass, and holding threads with beads strung on them between his eyes and the stars, then laying this thread on paper and making out the relative positions of the stars by the light of a tallow candle. Ferguson described how he made a dial, and these two readers, not quite knowing what such a thing was, made their dial too, and many other strange things his book told of.

George next enlarged his house and garden, and cultivated prize cabbages; so gradually the little Killingworth home became a pleasant place, Engine-wright George possessing even a dun pony, "Squire," on which

to go about from one pit to another ; and, better than all, when Robert's donkey had daily trotted him backward and forward to school for four years, and when he had been apprenticed at the colliery for three more, his father, by dint of close saving, managed to send him to the University at Edinburgh, where the youth spent a very happy time, returning at a few months' end with all kinds of good reports, and an academical prize for mathematics, which highly delighted the unselfish parent, who had scraped up his own education mostly by means of a slate or a lump of chalk, and knew the value of "book larnin'," so scarce in the "Coal-Hole in the North."

CHAPTER VI.

THE "GEORDIE" SAFETY LAMP.

"Howe'er the daylight smiles, or night storms rave,
His dangerous labours, deeper than the grave ;
Alike to him whose taper's flickering ray
Creates a dubious subterranean day."

IT had happened many times, while George was working about the pit's mouth, that dreadful fire-damp explosions had occurred in that dark domain below, in which so many men and boys—nay, even women, until of late—passed long hours of their toilsome lives.

No one who has been spared the sight and sound of them can imagine the unspeakable horror of

such scenes. George sometimes told, with a shudder, of a day when turning away from his braking-engine, after letting four men down to prepare the furnace, he was startled by a fearful burst—as of a cannon suddenly fired up the mine; and then there came pouring up the pit's mouth all kinds of shattered things that had stood in the way—splintered wood and stones and trusses of hay flying loose in every direction, helpless, as in some fearful upheaval of Nature—there was no resisting for a second.

As in a coming earthquake, the ground cracked and shook under the feet of the pale-faced folk about the pit's mouth—suddenly falling away, being scared almost out of their senses by the dreary knowledge of what horrors must be going on below, yet none daring to approach again for fear of such another burst. George, among the first, mustered courage to face the storm and work the ropes again; then a few poor fellows were saved who chanced to be at the bottom of the shaft, the last pitman being helplessly projected high in the air, yet, strangely enough, falling unhurt among the anxious lookers-on. Ten men were killed—it might as easily have been two hundred—and the colliery owners lost £20,000 through the damage done.

No marvel this dreadful “fire” or “choke-damp” was ever a frequent topic all about the Tyneside, where so many had suffered in some way because of its ill-doings. True, Government had lately offered

a high reward for a miner's safety lamp, but as yet none had proved at all effectual, not even Mr. Glenney's, the most promising hitherto known of ; and the poor miners still went poking heedlessly about by the light of tallow candles, through which the mischief happened ; or even in the worst mines with nothing safer than "steel wheels," wretched and clumsy contrivances which, stuck in the waist-band, had to be constantly struck with a flint, so giving a succession of faint sparks, by means of which the hewer had to hew his way as best he could through the long dark galleries he burrowed as he worked.

"As to the earth, under it is turned up as it were fire." How one is reminded of this startling description in Job, by some of the stories connected with the coal-pits, and only too familiar to George's pained ears. Did not every collier's child know of such ? Benwell, for instance—Benwell, near by, said to be the very same place where coals were first dug for in all Great Britain. This big, rambling mine had, in the long ago of their great grandfathers' days, taken fire through the incautious lighting of a candle, and, being abandoned, had gone on steadily burning for over thirty years, doing incalculable damage.

At first a daring pitman had offered to venture alone and extinguish the flames for one half-crown, but the stingy owner of the place had refused to pay even that much, trusting that surely the fire would go out of its own accord ; a penny-wise trust indeed, for

before long the hidden fire acquired so great a hold underground that none dared meddle at any price and it spread and spread, even as far as Feltham grounds, where it burst out in fierce volcanic fashion in nigh twenty places, covering the green grass and the golden furze with most unlovely flowers of sulphur and rough lumps of sal-amoniack—the strangest thing to happen as there were no salt springs nigh. All this had chanced long before, yet everyone hereabouts knew how rough and unequal it had left the ground, and how bits of coal were still found on its surface.

There were, and unfortunately are still, very pitiful incidents connected with the terrible tragedies for ever taking place in those black depths. Thus, in one of the Newcastle pits thirty-five men and forty-five boys were suffocated and starved to death through a sudden fire-blast. When their bodies were at length reached, one poor youth was discovered with the rest, his open Bible by his side and his hand still clutching his little tin box, on the blackened lid of which he had managed to scratch a fond parting message to the one who would mourn most bitterly—

“Don’t fret, dear mother, we are singing the praises of God while we have time,” and with filial after-thought the boy had added one line for his brother, who had happened not to descend that day, “Joseph, think of God, and be kind to our poor mother.”

One day George Stephenson had descended into a pit after such an accident, and was busied with the

viewers in a most melancholy task—that of seeking out the bodies of the dead—the fathers, brothers, husbands, of the living women and children, waiting and wailing above, finding one, then another well-known face of boy or man, most of them suffocated and stifled by the fumes, few showing signs of burning, the blast had done its work suddenly as shot. The viewer paused in the gruesome task to exclaim with a shudder, “Don’t thou think, now, something might be done to hinder such awful things happening?”

He asked the question because he knew this thoughtful fellow had been closely studying the matter of late, and it was growing into a fixed idea hereabouts that whatever thing Steve took in hand he accomplished somehow. “Aye, I *do* think something might be done,” answered the enginewright, in the slow yet decided manner of one who had a “something” on his mind which he would presently make clear for all; and the viewer, as they bent together over one poor lad, begged of George to set about finding this remedy as soon as possible, for, as he exclaimed, “The price of coal-mining now is our pitmen’s lives,” a sad fact that was proved by the scene about them.

Just about this time it happened, as though to impress the risk and danger of fire-damp on the enginewright’s mind, that one morning, young Robert Stephenson, but lately apprenticed to Nicholas Wood, came with him to the mouth of the dismal Bobby pit, when the viewer, stopping to light his candle, asked of

Summerside the overman, but in a very careless tone—"Think it's safe to go down with a light to-day?"

"If ye go down she'll fire on ye," was the very decided answer of a man of much experience.

"Oh, nought o' the sort!" said the viewer, light-heartedly, going his way, with the boy after him.

But the old man, who knew them well, caught at young Bob's jacket sleeve and held him fast, saying in a way there was no disputing—

"Thou shannot go in, lad, but sit here wi' me i' th' air course."

Master Robert lingered perforce, and, before he had time to consider over the matter, there happened a sudden burst, and a tremor underneath that told the pit *had* fired; and, though the rash viewer escaped with his life, yet with some bruises, it was an explosion that might have destroyed many, through this one man's rash heedlessness—only too common an instance.

Closer than ever George puzzled over the means of hindering these constant explosions. He was constantly poking about the fissures from which the treacherous gas escaped, and the Killingworth pitmen would grumblingly expostulate when he passed a lighted candle near the blowers overhead; but all the attention he paid to their remarks was to assure them that it was "all reet," and that he was thinking how to battle the demon of the mine; which was plain and good seeing, so they had only to be content to watch Steve's whereabouts, and keep out of his way.

At last this earnest searcher after causes came to the conclusion that the surest thing would be a lamp, with a chimney fashioned so as to force a strong current to ascend with such velocity as to hinder foul air from descending towards the flame within it. This lamp, he thought, might be safely carried about, and having the idea clear in his mind he went off to the head viewer, and begged him to draw him the plan of such a lamp as he would describe the uses of. The viewer luckily took a great interest in the work and the worker, so the two set at once to the task, and worried out the idea bit by bit. The drawings took some evenings to accomplish, and when done, the friends went off to a Newcastle tinman and ordered a lamp to be made according to the plan; then there was nothing to do but possess their souls in patience.

Robert Stephenson, in 1857, told the story of that first experiment—which took place in 1815, when he was but a boy of twelve,—told how in the dusk of an October evening his father came hurrying into the little cottage room, his face all bright with expectation, and how the viewer was waiting, all anxious to get below, for there was to be no time lost in making the trial. Surely no Aladdin's Lamp could have caused more excitement in Bagdad.

But Nicholas, the friendly viewer, had not arrived, and young Robert, as excited as any one in this matter, was sent off post-haste to bid him come instantly. "Tell him we are going down the pit to try

the lamp!" cried the father, as the eager boy tore off in the darkness to carry the message. He had over a mile to run, but might make the distance much less by crossing the old churchyard as he had often done safely by daylight. However this was a very dark night, and just as he was about to dart through the swing gate, he saw—he certainly *did* see—a tall white figure hovering here and there among the tombs.

Poor Robert, he let the gate go clang and stood for an instant, open-mouthed and breathless, shaking from head to foot. In Benton churchyard here was a live ghost, and nothing but a ghost. Some boys, even town-lived ones, who know better concerning such matters, or should do so, would have turned and scampered home again, but Robert, having his father's message so clear before him, and being moreover very anxious to tell Nicholas about the wonderful lamp, screwed up his courage and made a rush round, skirting this haunted churchyard. Having reached a respectable distance, he took breath, and ventured to stare back at the "thing," whatever it was; but this time he saw that the spectre had set a lantern on a grave, and, moreover, he heard that it was busy with a spade, turning up what appeared to be very substantial pats of earth. Last of all, the ghost resolved itself into the matter-of-fact figure of an old grave-digger, with whom Master Robert was acquainted!

When the viewer heard that the longed-for lamp was finished, and Stephenson and Moody only waiting

for his arrival to test it, he at once mounted his pony and rode off, leaving the boy to follow at his leisure. But long before he had reached home the three men had descended into the mine, and were making their way to a part where they knew the foulest gas was issuing from a blower. Here, to make their test the surer, they had boarded in a portion so that the noxious vapours might not escape. The inventor eagerly volunteered to enter this enclosure, lighted lamp in hand, to do which, needed as much courage as a soldier shows who advances straight to a cannon's mouth on the poor chance of its not being charged.

Not unnaturally, when in the face of so imminent a danger the other two men paled, and began to hint of the peril to themselves and to the mine. Better test the lamp some other way—this was too rash a venture; but Stephenson, bidding them stand back in a place where the gas had not penetrated, advanced alone into the recess filled with fouled air.

There followed a sickening moment of suspense as he disappeared into the shadowy depths, lighted lamp in hand. They could not see him holding it high and low, even close to the blower; could not see the little flame in the new lamp, first flare up so as to fill the lamp with fire, and then flicker itself out. But they could hear that no dreaded explosion followed, and hear him cheerily proclaim "All's right!" Emboldened, they advanced a little, just near enough to see the strange experiment repeated. Then realising

that here was indeed a true "safety lamp," they took it in hand, waving it about in the foul air with all impunity and much glad thankfulness and wonder.

George was successful in this great task, and all the neighbourhood rejoiced loudly, and all thought him sure of honour and reward. Yet, curiously enough, just at the time, when this humble colliery engine-wright, in his far-away cottage of Low Moor, without books or learning, was struggling with his plan for saving pitmen's lives, Sir Humphry Davy—the President of the Royal Society—was publishing a learned, interesting paper on "the Fire-damp of Coal-mines, so as to prevent its explosion;" and being requested so to do by a committee of colliery owners, had turned his attention to the construction of a lamp for the safety of miners. I need not say how well he succeeded. The "Davy lamp" tells its own story, and was constructed on a really more scientific principle than the "Geordie," though the result was much the same, and each has saved innumerable lives.

Very much discussion followed the simultaneous discovery of these two lamps. There were committees and meetings on the subject, Sir Humphry's partisans being indignant that "a common man, a mere engine-wright, not even possessing a knowledge of the elements of chemistry," should oppose the claims of their scientific President, who was presented with the sum of £2,000 as the inventor of *the* safety lamp, upon which many, who by now knew more of Stephenson's

deservings in the matter, also set up a subscription for the "enginewright," which amounted to £1,000; and what pleased him above all, the pitmen, to show their personal gratitude for the "Geordie," presented its maker with a silver watch, which he ever prized above all his treasures.

Now, as we have followed the trial of the first "Geordie," perhaps that of the first "Davy" may prove interesting.

Sir Humphry having invented his ingenious lamp, all unconscious that he had a rival in the matter, he being in London, and far too busy to test its powers, except, indeed, in a large bottle of fire-damp sent to him for the purpose, forwarded one to the rector of Jarrow, near Newcastle, requesting him to get it tried in one of the many coal-pits in his neighbourhood.

The Reverend John Hodgson was a favourite with colliers, and a man who, besides knowing all about these pits, had the greatest faith in his friend, the President; and being bold of heart and loyal, determined to test the lamp himself. So taking with him one of these new things—a simple enough affair, being just a kind of lantern surrounded by a wire gauze, through which he was assured the evil gas could penetrate, yet not emerge as flame, Mr. Hodgson ventured down into the Hebburn Pit, one of the worst in the neighbourhood, in most parts of which only the old steel flints, not even candles, were allowed to penetrate for fear of "blast."

He went along one dismal gallery after another,

holding the lamp high and low, and saw it more than once fill with gas, which burnt out in its wire cage without producing any sort of explosion. At length he came near a deep hole where a hewer was working in darkness and discomfort, and this poor man, seeing some one approaching with a light, and knowing there was great danger of ignition, all about this special corner being strong of gas, roared out lustily as every man would do in fear of instant annihilation:—"Put out that leet, mon! put out that leet! this moment, d'ye hear? put it out, I say!" But the "leet" was not put out, and its bearer approached nearer, though the pitman swore and raged at the top of his voice, still warning the fool-hardy fellow tempting fate so madly.

As the flame came closer, the poor horrified hewer flung his pick aside, and threw himself face downwards in the soft mud at his feet—the only chance left him, for this blast is apt to fire clear of the ground—and he lay there with who can say what wild prayer on his lips, waiting for an explosion; yet though the light was soon close to him, no explosion followed. However was it? he waited yet a-while. All was still, and the "leet" was burning.

Then the hewer looked up to see Mr. Hodgson's kindly face beaming exultantly, and to be assured that there was no danger with such a lamp as he now held. He, the collier's friend, had undertaken to prove it at his own peril, and here he was safe enough.

Yet though it must be allowed that all credit is

due to the two inventors, both having done immense and precious service to poor toiling-underground humanity, colliery accidents are still far too common. Even though, since these most valuable and important inventions, many improvements have been made in safety lamps, they are as yet by no means perfection. Only lately a band of scientific men have made careful experiments with twenty chosen kinds. The long trusted Geordie and Davy were at once set aside, as only safe under certain ordinary conditions; then the next were tested one by one, the object being to ascertain whether the best of the remainder could be made to explode in any degree of foul air to which they might be submitted. Until such a one is found, we may not claim to have a "perfect" safety lamp. Until George's time there was no lamp at all, and in consequence the loss of life was out of all proportion to the number of pitmen or the work done in mines.

Long before this lamp question was decided, George was busied with that of the locomotive—still a subject of profound and wondering interest, as it had been ever since those early days when he, a mite in frocks, had watched "Puffing Billy" rumbling slowly by the old house at Wylam, and had to keep out of the way of the big horse that dragged it along its wooden tramway; for remember, as his son Robert has said, "The locomotive is not the invention of George Stephenson, or any one man, but of a whole nation of mechanical engineers."

"Billy," as we know, was the first locomotive used in the North to carry coal, that is, to enable one horse to drag several laden waggons, each waggon being one man's care ; but this was a slow business at best, and scarcely paid the colliery owners to work it ; so no wonder that many efforts were made to improve this heavy, clumsy affair. Among these first inventors were Outram, and Trevithick, the clever Cornish miner, who had invented, among other things, a large steam carriage, intended to run upon ordinary roads.

These things proved failures, yet they had suggested others, and all the mechanical geniuses of the time were busy trying to work out some system of travelling by steam. One actually made an engine to run along on four legs, like a horse, but that blew up, thereby doing much damage to its surroundings. Other wonderful and ingenious things were to be met with, puffing and blazing their experimental way along quiet roads and lanes, much to the horror of superstitious rustics, who hid themselves or ran shrieking at the sight of what they took for fire demons and evil spirits, ready to destroy all who might oppose. Indeed, it is well known that when Trevithick was on his way with his engine to London, where he afterwards exhibited it as a wonder, a keeper rushed out of the first toll-house he reached, and almost breathless with fright, flung wide the gate, exclaiming stammeringly, "P-pass o-n, p-pass on,

dear Mr. D-devil ; oh ! please p-pass on as quick as you like ; there's n-nothing to pay for such as you ! ”

Plenty of money was spent in this bewildering matter of locomotives. One engine after another was tried, all making much noise and bustle, and all more or less failures, before Geordie took the matter in hand, simply with a view of economising expense in the sending coals as far as the Tyne banks, much of it being conveyed to the vessels lying in the broader part of the river by keels, hundreds of which floated down, guided by the handy “bullies” (once “boolies,” or well-beloved), clearing the way, each with his huge oar or swape.

In 1814 his locomotive—“Blucher” was the name of this coal drag, which tells of those fighting times—was run on the Killingworth Railway. It hauled eight waggon loads of coal, but it took such a time about doing it that there was no particular saving until, as by a flash, our engineer saw where the defect lay, and how to remedy it. The furnace wanted a draught, which could be given by sending the waste steam into the chimney—done, and the power of the engine was wonderfully increased. Then he made another locomotive, and yet another, each with all kinds of improvements on the last ; and when people sneered at his determination he planned the harder, practising all patience, and his motto, “Persevere.”

CHAPTER VII.

THE LOCOMOTIVE : ITS STORY.

"Soon shall thine arm, unconquered Steam, afar
 Drag the slow barge, or drive the rapid car."

Darwin, 1784.

"To the public at large, to the community, the introduction of railways has been of the greatest possible advantage, the prime blessing of the time. I take George Stephenson as the main cause of that success ; yet, without Edward Pease, George Stephenson could not have accomplished that work."

Thus spoke Lord Brougham after turning the first sod of the Eden Valley Railway, in 1858, and, as every one felt, spoke most justly. Who then was this Edward Pease, and what did he do to further the great cause which our humble northern engineer had spent his life in furthering ? To understand Lord Brougham's allusion we must turn back to the year 1810, when there had been great local rejoicing and public stir over the opening of the fine new canal cut in the Tees. There was already slight mention of a canal or of a possible railway from Stockton to Darlington, yet to make this new road a commercial success the collieries must be more easily got at. But how ? that was the question—one not to be answered for many years to come, our fathers, good honest

men, being slow to stir on any new matter, and apt to be cautious, so cautious, that such matters died out before they had made up their minds to attend to them. Besides, about this time everyone was much distracted concerning war, and rumours of war. Napoleon fighting everybody abroad, meant taxes and general difficulties at home. Commerce was smothered, enterprise had vanished, folk buttoned up their pockets, and wondered very anxiously—not about roads, but what would happen next in England.

With signs of "the piping times of peace," commerce and enterprise both revived, stronger and more cherished because of their late evil plight, questions of public advantage and interest were once more discussed, and in the north the question of canals *versus* railways revived. People, as a rule, favoured the slow-going canals, because they understood their working better than that of these new-fangled railways. To settle the matter, a long petition was signed by many influential persons at Stockton asking the mayor to convene a public meeting at which to arrange a method for the quicker conveyance of goods.

Among the signatures of most importance were those of Edward, John, and Joseph Pease, brothers, and most honourable members of the Quaker community at Darlington, Edward and Joseph being, later on, appointed on a committee to discuss and decide upon the various schemes laid before the public, the most favoured of which was

one for a canal to be cut right away from Stockton to the coal country. At one time this scheme was quite decided upon if money enough could be raised for the purpose; but because of this *if*, the plan fell through, and by-and-by some folk thought it would be better, that is, cheaper, to lay down a railway, or, rather, tramway, and haul the coals along it by means of horses—for, as yet, no one dreamt of doing without their services, any more than they thought of themselves travelling by any such means as steam, or in any such rapid fashion as we now do.

Still, the towns were very much divided in opinion. Even when a survey had been taken of the roads between them—and it was time, now or never, to apply to Parliament for further powers—they could not agree to do so. Stockton's authorities, afraid of being out of pocket by this new system, would not hear of anything but a canal, neither would the landlords or the road trustees; while as to the great army of carriers and donkey-cart owners, who carried merchandise and most of the coals for inland sale, they, naturally enough, made a great outcry, and vigorously opposed this railway project. As to the citizens, they kept back their money till the affair was decided, and were not very much interested in the matter as yet.

Then it was that Edward Pease stood forth publicly in favour of railways, declaring that they would certainly cost less, and as to speed would be little inferior to canals. The more he examined into

their capabilities, the more convinced he became of their desirability, but he found it difficult to readily convince other people—even his own brothers could not for a long time quite agree with him on this subject, though they talked it over in office hours.

"But, Joseph," Edward was once heard to argue, "if I show thee that a road can be made at a reasonable cost, by which road my horse can draw its four or five tons at the rate of nine miles an hour, while thine is drawing its one ton along the common highway at three miles an hour, I know which Englishmen will choose, surely."

"Nay, nay, brother Edward," returned Joseph, pausing pen in hand to consider over this argument, "but thou wilt be driving thy horse up to the neck in mire before that can be done," and he smiled and shook his head so doubtingly that Edward answered shortly—for he had the cause much at heart—

"Well, well, brother Joseph, maybe we had better not return to this subject in office hours—it interferes with our business," and so for the moment railway matters were set aside in favour of wool; yet when Gott, that prince among Yorkshire manufacturers, came travelling this way from Leeds they soon fell a-talking concerning its merits again, and he, having heard the Quakers' earnest and business-like arguments and reasons, mentally capitalised the difference of rates likely to be paid on the carriage of coal per ton and exclaimed—

"You are right, Edward Pease. You are making Stockton an annual present of 30,000, and of 6,000 to Darlington. Surely they will not refuse such a boon!" Though but very unwillingly, they were made to accept it at last; yet not until after great difficulties, for everywhere it was organised, the Company was opposed and defeated by the rich land-owners, who rebelled against any lines being laid on their property; then again, the Bill was hindered by the death of George III. Only in 1820 was the "Quakers' Line" dragged through Parliament in the face of all and every kind of objection, thanks to the execution of those foreseeing and influential "Friends" of Darlington, who had proved its most zealous advocates.

News travelled slowly as yet, for it travelled a-foot; but when it was known for a certainty at Killingworth that the Bill for a railway had finally passed, our patient, undemonstrative George Stephenson, grew excited and anxious, lest this great chance for bringing his locomotive before the public should be lost. He determined to go at once to Darlington, and try and speak to, and gain the good word of the rich Quaker, who was said to see a hundred years ahead, and had hitherto done so much to forward the scheme. But George was somewhat reserved and shy of intruding himself upon gentlefolk, so he prevailed upon Nicholas Wood, the friendly viewer, to accompany him, and give him the aid

of his countenance and company, and tongue too, if needed.

It was rather a long journey from Killingworth to Darlington, but the twain accomplished it, partly by walking, partly by cheap "nips" on passing coaches; and at last they found themselves in the ancient and picturesque town, built on the hillside, by the banks of the clear-flowing Skerne—a very different neighbourhood from the one they had left behind them, for hereabouts there was more spinning of woollen camlet and moreens, than colliery work. The people, too, looked rosy and clean, quite different from pitmen.

Our travellers were interested in the handsome Cleveland bays that trotted by, laden with bales of merchandise, or easily dragging heavy waggon-loads of coal over hill and dale; then, too, there were plenty of thriving farm-yards hereabouts, and larks overhead; and pleasant green lanes and fields, into which our Nature-loving enginewright would have delighted to wander at any other time; but now, all his anxiety was to reach the large white house on the hill, where he was told Edward Pease lived, and to get audience with this great advocate of iron roads, who, he felt sure, would give him some chance of employing worthily the store of practical knowledge and ideas he had been steadily hoarding up, and adding to, in all the past years.

Mr. Pease did not usually transact business at his own private house, but when he heard that work-a-day

strangers had come all the way from Killingworth, and particularly wanted to see him, he at once went down to receive his visitors, who stood near the door, looking very tired, dusty, and evidently all uncertain as to their reception. However, the one who seemed to have the most confidence, introduced himself bluntly as the head-viewer of the Killingworth Collieries, "and this," he said, turning to his nervous companion, "is George Stephenson, our enginewright;" upon which George advanced, and with a diffidence that made his strong northern burr more noticeable, acknowledged the introduction with a shy—

"Aye, sir, only the enginewright at Killingworth, that's what I am."

Mr. Pease, who always liked to meet and talk to a sensible modest man, whatever his station, at once greeted this one most kindly; and in a very short time the wealthy landowner and his humble visitors were on the best of terms—"talking railroad," after a fashion that delighted them both, and astonished one of them not a little. For hitherto Mr. Pease had thought only of horse-power being employed on the "Quakers' Line," and was not at all prepared for this evidently skilled enginewright's strong assertions in favour of the locomotive engine, such as he could show at the Killingworth Collieries, and which he had worked at, and with, for a long time now. "Horses! why one locomotive would do the work of fifty horses, as far as the railroad is concerned, and in time

would take their place on it altogether," so he asserted ; then reading both surprise and incredulity on the Quaker's shrewd face—and certainly the idea seemed a very wild one, and a very exaggerated possibility—the enginewright most earnestly besought his hearer to come as far as Killingworth, and judge with his own eyes, which would convince him more than any words that could be used.

So it was settled Mr. Pease should come, but evidently more to satisfy this eager speaker, methinks, than through much faith in the over-wonderful steam engine described ; but what was still more hopeful, he promised to make due inquiries, and if all were satisfactory, to try and get George appointed engineer to the new Company. We may fancy how pleasant that return journey must have been, and how lightly the many miles were passed over, so true it is

"A merry heart goes all the day ;
A sad one tires in a mile 'o."

Wherever the friendly Quaker inquired, he heard but good report of George's character and abilities, and soon exerted himself so strongly in his favour, that the Company, convinced that they had found the likeliest man to forward their plans, appointed him "to survey and report concerning a possible line," a promising nomination, news of which Mr. Pease gladly forwarded to his humble village protégé ; not by means of the penny post, or a telegraphic message we are sure, but by that of a mounted messenger,

commissioned to place the large official missive in the hands of G. Stephenson, Esquire, Engineer, Killingworth, and no other.

It was all very well to go riding up and down Killingworth inquiring for G. Stevenson, Esquire. Nobody in Colliery Row was called Esquire: the wives hereabouts took it for a name, and shook their dishevelled heads, and knew "nowt o' sich like person as A Squeer," or of any one likely to receive a big sealed letter. The puzzled messenger was near having his journey for nothing, had not one lass, brighter than the rest, suggested that G. Stephenson might stand for "Geordie Stevison," and that he lived in the "bit cottage house yonder, t' wan wi' th' sundial owre t' door."

I need not tell how gladly "G. Stephenson, Esquire, Engineer," undertook the task; how swiftly and carefully he measured out the line, assisted by Robert, as eager and ready as himself at the task. Yet it was no easy one—they being but new hands at it, a new profession, and wanting many instruments, of which they did not even know. However, they accomplished it, and the first rail was laid in 1822.

Thus far, there had been no serious mention of locomotives on this line; only, as George was continually urging that they far excelled stationary engines, and the conscientious Quaker had promised to see and judge for himself, he presently travelled

over to Killingworth, and at the place known as Three Houses—between the turnpike and the railway—found the enginewright's house—just one room and a tea fall—where Betty, Mrs. Stevenson number two, was busy cooking. She sent for George, who was down in the pit, but came hurrying up all black and dusty, but delighted to show off the paces of his pet engine—racing it up and down alone, then attaching several heavy waggons to it, and rattling away as fast as ever. Truly, seeing was believing.

From that time Edward Pease *did* believe, and recommended that locomotives and nothing else should be used on the line, as they certainly greatly surpassed horses, as far as speed was concerned.

George's first "travelling engine," which had no springs, and was mounted on wooden wheels, was driven by his brother Jimmy, who lived yonder, at Swalley Pit, where the railway crossed. To realise what humble folk these Stephensons were, we have but to look in at the one-roomed house, where they lived, and in which, surrounded by children, the good man slept after his work ; while every morning at four o'clock his helpful wife Jinney was about the rail—making the fire, and getting up the steam of the engine ready for him to drive ; then she would start off washing or cutting fresh grass for the cow.

Early one day it happened that this engine, being over-weighted by too many coals, stuck fast on the crossing in front of the house.

"Jinney! Jinney! come awa', lass, and put t' shoulder to her, or we shall never get her along," cried the husband, finding that they were coming to a dead stand; and out ran the faithful Jinney to cheerily push and pull until the train started on its way again, puffing and smoking at a great rate, as it always did, as though to make itself as objectionable as possible.

But the engine George paraded up and down before his Quaker visitor's eyes was quite of a different and improved order to the poor old clumsy "Blucher" his sister-in-law had attended to, as would be easily understood had I but space to describe its workings. At any rate, Mr. Pease saw its merits and appreciated them, telling of it far and wide; while George, having so far proved his skill and willingness, was soon appointed engineer to the Company, at a salary of £300 a year.

He no longer appeared in the shabby clothes fitted for colliery work, but in the smart blue coat and top boots of the period. Yet, now his position was assured, he worked harder than ever, almost living on the line, getting odd scrap meals how and when he could; never heeding any discomfort or hardship, toiling early and late, yet ever cheery and pleasant looking; welcome in the poorest cottages as he was in Mr. Pease's fine home, where he became a favourite with the whole household, and one thought much of because of the wonderful abilities of which he made so small

parade, and the simple originality and cleverness of the observations he made on most things.

While this survey was going on, and the rails being laid for stationary engines, George was still hoping that locomotives would yet come to the fore; and being determined that when the time came they should be properly constructed, he begged the aid of his Quaker friends, and taking the thousand pounds which his "Geordie" had gained him, and which our thrifty engineer had set aside untouched in the bank, he proceeded, aided by his son Robert, to build a factory at Newcastle—a suitable place in which to build engines after his own heart. It was strange to see how thorough this man was in all things, for to make sure of the "littles," he would himself direct the masons—even handing them bricks, the laying of which he understood with the best of them.

Be sure the work was well carried out. No wonder that in time this Newcastle factory became a very prosperous concern—though at first it did seem venturesome to spend every penny in building a place in which to make locomotives that it seemed more than probable would never be ordered or asked for.

Almost everybody, except the Quakers, stoutly objected to the use of these little-understood travelling engines, and we almost wonder to hear that in the face of all those objections the directors of the Company had the courage to order three locomotives, with all possible improvements, to be ready for the opening day.

They were only as yet intended to draw coals. But George cried rejoicingly: "Railways will yet become a great highway for the king and all his subjects!" And Mr. Pease believed him sincerely.

The opening day was an event that had been so much talked of all over the country, that on it folk came tramping and driving in from all parts—anxious to see the procession of heavy waggons drawn by these steam locomotives, concerning which there had been so much angry argument. Now, everyone wished to judge of their speed and working, and every available spot near the line was crowded to see, first, the "Locomotive," driven by this Newcastle engineer himself, and dragging six heavily-laden waggons, then a covered coach filled with excited directors and shareholders; then twenty-one coal-waggons—for this journey only, crammed with venturesome passengers—then last of all, six more piled with coals; a strangely brave show, surely, and heralded by a smart horseman waving a big flag, on which was to be read the Latin motto of the Company, which meant in plain English, "Private enterprise, public good."

Picturing the scene, one naturally wonders at the strange rashness of any man riding calmly, with a banner in his hand close to and just in front of a steaming locomotive; but as the said engine was so heavily weighted, and never in the least suspected of moving above six miles an hour, he had small fear but that his fine horse could outstrip the fiery iron

monster in his track. So he might well canter leisurely past the holiday folk cheering along the line—some driving in ancient gigs and carts, others running, and thinking to keep time with the whole affair that came but slowly as yet, because of the decline in the rail towards Darlington; but that ended, Stephenson shouted to his gallant outrider to get out of the way; then he turned on the steam, and off, with a shriek, flew the “Locomotive,” bearing along its caravan of nearly five hundred persons, at the rate of fifteen miles an hour; and leaving its rivals in carriages or a-foot staring in the far distance.

In 1825 the first Passenger coach was started, planned and built by Stephenson, and the forerunner of those endless lines of passenger carriages we see at every station. It was a lumbering object, something between an omnibus and an overgrown clumsy bathing machine, with a door at one end. A long narrow table ran down the centre, and there were hard benches all round it; no first, second, or third-class passengers dreamt of it. It was drawn by one horse along the rail, but after a time it proved to be far too heavy for any creature to move, and was presently replaced by the second-hand body of a shabby postchaise, purchased cheap by the Company, who did not themselves work the coach, but let it out to a local contractor, who ventured somewhat surely, remembering how lately one three-wheeled postchaise sufficed for all the requirements of Darlington.

This spirited personage even went so far, when evenings closed in extra early, as to indulge passengers with a tallow candle, stuck in a tin candlestick on the table, so as to be handed round for snuffing. As yet there had been no thought of lighting vehicles, and no doubt this was looked upon as a great advance and inducement to travelling, just as later on, when omnibuses were first started in London, the shilling fare included the loan of a newspaper ; so that those who rode might read, and so while away the time.

THE FIRST RAILWAY TIME-TABLE.

"The Company's Coach, called the 'Experiment,' will commence to run from Darlington to Stockton, and from Stockton to Darlington every day (Sundays excepted), setting off from the Depôt at each place at the times specified as under, viz. :—On Monday, from Stockton at half-past seven in the morning, and will reach Darlington about half-past nine. The coach will set off from the latter place on its return at three in the afternoon, and reach Stockton about five. Tuesday from Stockton at three in the afternoon, and will reach Darlington about five.

"On the following days, viz. :—Wednesday, Thursday, and Friday, from Darlington at half-past seven in the morning, and will reach Stockton about half-past nine. The coach will set off from the latter place on its return at three in the afternoon, and reach Darlington about five.

"Saturday from Darlington at one in the afternoon, and will reach Stockton about three.

"Passengers to pay 1s. each, and will be allowed a package not exceeding 14 lb. All above that weight to pay at the rate of 2d. per stone extra. Carriage of small parcels 3d. each. The Company will not be accountable for parcels of above £5 value, unless paid for as such. Mr. Richard Pickersgill, at his Office in Commercial Street, Darlington, and Mr. Tally, at Stockton, will for the present receive parcels and book passengers."

CHAPTER VIII.

CHAT MOSS.

"Happy MacAdam, who can'st knock
 A ten-pound note out of a rock ;
 Can'st so adroitly smooth the way,
 To make even Parliament defray.
 Had I that art by you discerned,
 I would not leave a stone unturned,
 Till I had learned to coin and mint
 A golden sovereign from a flint."

The Co'ossus of Rhodes.

So wrote a wit, concerning the several rewards that Government about this time had awarded MacAdam for his new system of public road-making—money and an offer of knighthood ; yet of Stephenson's good work it took not the slightest notice. In fact, after that great stir on the opening day of the "Quaker's Line," little more interest was shown in the three locomotives which our poor engineer had hoped so much from ; they were used for coals certainly, but haulage generally was still done by horses. The old jog-trot system of travelling went steadily on again, and everyone seemed satisfied—except, indeed, our George, who had trusted that if he could only show the public what was possible, opposition and doubt would be done with, and now found himself miserably mistaken. He had need exercise his motto, and "Persevere" yet, or he would lose all chance.

After some long time, passed in a most unsatisfactory manner, it dawned on the many commercial men of Liverpool and Manchester that their respective businesses seemed gradually coming to a regular standstill, and for a reason that was evident to all who carefully considered the fact, that these two most important towns, only separated from each other by thirty-six miles of road, or fifty miles of canal, were fearfully hampered, either by the ruinous tolls imposed on the King's highway, by the freezing over of canals, or by the rude masterfulness of independent carriers having things all their own way. Very often it took longer to get bales of cotton from Liverpool to Manchester than it had taken to bring them from New York; and this state of things had grown so bad that it was publicly decided they must be put an end to, the simplest means that suggested itself being to run a tramway from one town to another.

A good many clever professional persons had a voice and a hand in this important matter before Stephenson, quietly working his engines at Killingworth, was called in to give his opinion on the subject.

It was easy enough to say, "run a line from one town to another," but there was a big bog, or morass, known as "Chat Moss," right in the way, besides much troublesome hard rock. Altogether these skilled men were puzzled, and more than doubtful; but our self-trained engineer came, studied the matter carefully, and declared that not only would he undertake

to lay a railway straight away over the bog, but also to run a "travelling engine," as the locomotive was called, across it, at the rate of twelve miles an hour.

It is most difficult to understand now-a-days the storm which this statement raised in the Midlands.

He might have offered to destroy the towns without causing much more hubbub or rousing the vested interests in all the neighbourhood to a greater pitch of indignation; an opposition all the more remarkable, that Manchester men have ever been proverbial for solid good sense, and Liverpool citizens never backward at any suggested improvements. But this time the battle raged high. There should be neither railway nor survey allowed for such an ill thing. The country-folk were roused to hinder and oppose, even if it came to hand-to-hand fighting. Men, women, and children took to flinging mud and stones at the surveyors; ill names and pitchforks came flying together, and whenever these amiable rustics could seize on a theodolite they smashed it, and ducked the unlucky folk who knew its secrets. Surely they fancied it a thing bewitched. Robert Stephenson—now a tall young man, and a clever surveyor—and Joseph, Edward Pease's active nephew, had sundry narrow escapes of the kind, doing their work under all sorts of disagreeables, yet still continuing it for months, while the landowners tried to increase difficulties in their way.

Yet impatient city people urged them on—first declaring, "We want a new road"; then, "We must

have our new road"; and finally, "We *will* have our new road of some kind." At last £30,000 were subscribed, and amid howls of discontent the whole survey was announced to be satisfactory and complete.

But all this time poor George Stephenson was having a very hard time of it, and before he could get a fair start, had to come to London and run the gauntlet of an examination before a committee in the House of Commons—a terrible ordeal for our plain unlettered Northumbrian, at whom would-be witty members mocked, because of the "burr" that excitement ever increased. They treated him as a foreigner, sometimes almost as a lunatic, say what he would; they cared not to reason coolly, being mostly prejudiced people who could see with one eye only, and that a little one, and short-sighted.

"No man in his senses would undertake to make a road over Chat Moss," scornfully decided all the leading engineers of the day, more especially such important persons as Francis Giles, C.E., and Mr. Cubitt, both vehemently opposing the plan, one declaring publicly, and with a fine contempt—

"It is ignorance almost inconceivable. It is perfect madness in a person called upon to speak on a scientific subject to propose such a plan;" adding contemptuously, "but then every part of this scheme shows that this man has applied himself to a subject of which he has no knowledge and to which he has no science to apply."

Poor George! He had to stand by and listen, to hear himself and his plans mocked at as fantastic, or worse. First it was the line itself, then it was his outrageous locomotives at which these learned men railed, conscientiously, but certainly most bitterly.

Said one, "Why, sirs, according to the original prospectus, we were to gallop at the rate of twelve miles an hour"—before this committee Stephenson had been strongly advised to underrate the powers of his engine. "Mr. Adam" (one of the counsel conducting the Bill) "was contemplating, no doubt, that some of the Irish members would arrive in the waggon to a division; my learned friend says that they would go at the rate of twelve miles an hour with the aid of the demon in the form of a locomotive sitting as postillion on the fore horse, and an honourable member sitting behind him to stir up the fire and keep it at full speed. But the speed at which these locomotive engines are to go has slackened. Mr. Adam does not go faster now than five miles an hour. I will show that he cannot go six, and probably, for any practical purposes, I may be able to show that I can keep up with him by the canal; besides, these locomotive engines are liable to be operated on by the weather; they are affected by rain, and an attempt has been made to cover them, but the wind will affect them, and any gale of wind, that would affect the traffic on the river Mersey, would render it impossible to set off a locomotive engine, either by poking the fire or

keeping up the pressure of the steam till the boiler is ready to burst."

And so on, and so on, did these prejudiced and over-wise men argue, the Parliamentary advocate winding up a scathing speech that lasted two whole days with—

"My learned friends wished me to put in the plan, but I had rather have the exhibition of Mr. Stephenson himself in that box. I say he never had a plan; I do not believe he is capable of making one. His is a mind perpetually fluctuating between opposite difficulties—he neither knows whether he is to make bridges over roads or rivers, of one size or another, or to make embankments, or cuttings, or inclined planes, or in what way the thing is to be carried into effect. Whenever a difficulty is pressed, as in the case of a tunnel, he gets out of it at one end, and when you try to catch him at that, he gets out of the other."

So the lawyer went on, railing at the gross ignorance of this so-called engineer, who proposed to make an impossible railway over Chat Moss, where, except for long sedgy grass and a little soil, there would be nothing to prevent its sinking into the shades of eternal night, "I have done now, sirs, with Chat Moss, and here I leave this railroad;" but it was not so left by others, for many residents came forward to prove that the smoke and fire from the passing locomotives would be intolerable, and also that, through them, coals and iron would be terribly

increased in price, and perhaps become altogether unattainable, and everything go wrong.

"What," asked one statesman anxiously, "what was to become of those who wished to travel in their own carriages, as their forefathers had done? What of ruined harness and coach-makers, coachmen, and coach-masters, inn-keepers, horse breeders, horse dealers?" and, he might have added, "horse stealers and highwaymen," for they, poor fellows, were the greatest sufferers in the long run. Among the rest, Colonel Sibthorp offered endless objections, which the *Punch* of the period thus summed up—

"I dislike railways; because they cut up the country. I hate them because they are the greatest levellers in the world!"

"I object to them, because I object to anyone running through my property—except myself."

"I have an especial aversion to tunnels, as I do not see upon what ground England should be bored by them."

"My antipathy against the smoke cannot be described in colours black enough. The prettiest spots upon the face of the country have been rubbed out by the new lines that have been run across it, and its most lovely features buried under a heap of cinders, which every railway carries in its train, for all the world like the train of Cinderella. In fact, if railways are allowed to run any longer, England will soon be reduced to a state of ashes, and will have

to be swept twice a year, or else it will ultimately disappear from the surface of the globe."

"I have the greatest dislike against directors, guards, policemen, and every one connected with railways. I think a stoker will go any length to attain his ends; and I am of opinion every engine is more or less an engine of destruction, and that nothing will stop it when once it has made up its boiler to go a certain distance."

"I have several other objections, quite as stringent as the above, but don't feel disposed to state them at present."

Yet the time came when the objector—like the rest—was glad to save time and money by travelling on this line.

George, on receiving his appointment as head engineer, began at once to work his way through the many difficulties; and certainly the railing over of that greedy quagmire, some twelve square miles in extent, known as Chat Moss, seemed a task much more suited to the powers of tireless enchanters read of in the fairy tales, than those of the ordinary, if willing, mortals our George could command. To begin with, this huge bog—which was the sort of place from which rises that well-known wanderer "Will-o'-the-wisp," that scientific folk declare is nothing but a gaseous exhalation, and no "Will" at all—had been preparing to resist any such attempt for who can tell how many ages. An overflow of this same Chat

Moss is alluded to by quaint old Leland, in the days of Henry VIII., when, describing the accident, he wrote :—

“ Chat Moss brast up within a mile of Mosley Haul, and destroyed much grounde thereabout, and destroyed much mosse and fresh water fishche thereabout; first corrupting with stinking water Glazebrooke, and so Glazebrooke carried stinking water and mosse into Mersey that corrupted carried the roullinge part to the shores of Wales, part of the Isle of Man and some into Ireland. And in the very top of Chateley Moore, where the mosse was highest and brake, is now a fair plane valley as ever in tyme paste, and a rylle runneth into it, and peaces of small trees be fond in the bottom.”

It was now—when George took it in hand—a kind of huge natural basin, piled brimful of soft vegetable decay, sludgy and thick, in which loose mosses were for ever growing in layers one over the other, withering, yet never quite decaying because of the peaty qualities of the bed in which they lay.

Rain caused these bog-mosses to swell and spread, and rise like a damp sponge where they were thickest; and at any time its treacherous surface gave way, shook and trembled beneath the slightest pressure, and swallowed up anything laid on its surface. This was the place over which our Stephenson proposed laying a railway, and conveying great weights. All the wise men of the time stoutly declared—pledging their

reputation to the fact—"No carriage can stand on the Moss short of the bottom," and as the bottom was at least thirty feet down, it certainly seemed a serious matter to think out; yet, our Geordie having decided that it could be done, and being mindful of his good motto "Persevere," not only thought it out, but what is more worked it out, for an experimental train passed over it, now a level, solid and beautiful road, on the first day of the year 1830.

Think of what he, wizard-like, had accomplished—this obstinate engine-man, ignorant, and having never been taught engineering, therefore all "incapable of making a plan." He had filled up Chat Moss the insatiable; he had made unheard of excavations; pierced tunnels, and built sixty-three bridges; all this, remember, with no past experience of such work to aid him, with defective tools, and ill-trained workmen, doing it all without the least public encouragement; indeed, he too well knew that if he and his failed, or had they all sunk and vanished in the huge quagmire, there would be a general cry of "We said so," with even an aside of "Serve them right, idiots, to venture on such a work at the word of an untaught working man."

How was it done? It would take too long to tell here of the difficulty of taking levels in such a place, of cuttings, and drains, too often filled up with the soft, dark treacherous sludge as soon as completed. At first the workers were in peril of being smothered in it if they slipped off the planks laid here and there

as pathways ; but presently they warmed to the work and took to "pattens"—not clanking things on iron rings, such as women wear, but very broad flat pieces of wood, tied fast to their feet—such pattens could also be screwed on to the horses' hoofs to hinder them from sticking fast in bogs ; then they worked day and night till the task was done. Yet, even then, so difficult a thing was it to realise that the work was a triumphant success, that many still thought something must happen yet to justify popular prejudice.

Only a few days before the final opening of this wonderful line, in 1830, it chanced that our engineer being at the coaching inn, at Bullocksmith, heard the landlord holding forth against "that Stephenson" and his works—naturally the topic of the neighbourhood.

"Opening day!" cried mine host, excitedly, "opening day, indeed; you will see on their opening day how they will all go squash into the Moss."

Most of his hearers listened with the complacency of people who were of the speaker's opinion, and believed in coaching inns and stage coaches. Yet once the railway opened, and after the "Northumbrian," driven by George himself, had whirled its one hundred and fifty passengers from Liverpool to Manchester in less than two hours, twenty-nine out of the thirty stage coaches that plied on this road vanished into private life; for no one, not even landlords, could believe in them now. In three months 71,000 persons

trusted themselves on this line, which now forms part of the London and North-Western Railway.

This reminds us of an amusing sketch written by Charles Dickens, some years after railways had become general :—

“The town had been a great stage coaching town, in the great stage coaching times, and the ruthless railway had killed and buried it.

“The Dolphin’s Head everywhere expressed past coachfulness and present coachlessness: coloured prints of coaches starting, arriving, changing horses; coaches in the sunshine; coaches in the snow; coaches in the wind; coaches in the rain and mist; coaches on the King’s birthday; coaches in all circumstances compatible with their triumph and victory—but never in the act of breaking down or overturning—paraded the house. Of these works of art, some framed and not glazed, had holes in them; the varnish of others had become so brown and cracked, that they looked like overdone pie-crust; the designs of others were almost obliterated by the flies of many summers, broken glasses, damaged frames, lop-sided hanging, and consignments of incurable cripples to places of refuge in dark corners, attested the desolation of rest. The old room on the ground floor, where the passengers of the ‘Highflier’ used to dine, had nothing in it but a wretched show of twigs and flower-pots in the broad window, to hide the desolation of the land; the room where the post-house company used to wait while

relays were getting ready, was as airless as I conceive a hearse to be.

"Sauntering into the town—by way of the pillared entrance to the Dolphin's yard, once redolent of soup and stable litter, now of musty disuse—I paced the streets; it was a hot day, and the more enterprising tradesmen had caused their 'prentices' to trickle water on their pavement frontages—it looked as if they had been shedding tears for the stage coaches and were drying their ineffectual pocket handkerchiefs. The opposite house to the Dolphin, once famous as the New White Hart, had long since collapsed, and, in a fit of abject depression, cast whitewash on its windows, boarded up its front door, and reduced itself to a side entrance; but even that had proved a world too wide for the literary institution, which had been its last sphere, and collapsed too, the ambitious letters of its inscription had all fallen off but these, L Y INS T, suggestive of Lamentably Insolvent. The church bells began to ring merrily as I left the spot, but they by no means improved the case, for they said in petulant tones,

"WHAT'S become of THE coach-ES!"

"Nor would they (I found on listening) even vary their emphasis, save in respect of growing more sharp and vexed, but invariably went on with 'WHAT'S become of THE coach-ES,' always beginning the enquiry with unpolite abruptness—perhaps from their elevation they saw the railway and it aggravated them.

“‘What we want,’ said the landlord, pulling off his hat, and making as if he emptied it of the last load of disgust that had exuded from his brain, before he put it on for another load, ‘what we want is a branch, the Petition for a Branch Bill is in the coffee-room, would you put your name to it? every little helps.’

“I found the document, and gave it the benefit of my signature. To the best of my belief, I bound myself to the modest statement that universal traffic, happiness, prosperity, and civilisation, together with unbounded national triumph in competition with the foreigner, would infallibly flow from the Branch.”

CHAPTER IX.

A PRIZE “ROCKET.”

“Still achieving, still pursuing,
Learn to labour and to wait.”

“Luck has a mother love for skill.”

Old Proverb.

HITHERTO we have shown father and son side by side, but lately they had been unavoidably parted, Robert taking charge of some engineering operations for working mines in South America, his father remaining to fight out the fierce “Battle of the Locomotives,” which was to make or to mar both their fortunes. A bitter parting, for George could ill spare

the companionship of his affectionate and helpful Robert, a man who, like his father, spent body and brain to advance the cause they had both at heart. But because of his health failing, the youth must go, taking perforce a very long, but most interesting journey, the wonders of which he loved to tell in coming years.

Think of this home-bred Newcastle surveyor, speeding away, first to Venezuela, then jogging twelve hundred miles on mule-back, meeting at every turn with most beautiful and wonderful views, a sort of fairy land of trailing, climbing, tropical vegetation and luxuriance, scantily peopled by men and women in fanciful garbs, the like of which he had never even read of, for books of adventure—now so common—had not been written when our traveller was a boy.

Whichever way he rode, there was much to please and surprise him, except unfortunately the mines of precious metals of which he had come in search. Of them, Robert could find but the scantiest traces, although he had hired an experienced native guide who was for ever buoying him up with most glowing accounts, and fine promises of untold treasures to come, but never discovering any of the marvels, for the very good reason that they had never existed, except in his fertile brain.

At last, when the long-suffering young Englishman began to show signs of disbelief and doubt, the fellow protested vehemently that his knowledge

of the mining districts was such that he knew not only where the gold lay deep hid over the mountains yonder, but of greater marvels also, the hitherto unvisited mines of steel, and of brass, and of fine alcohol—a rash statement which, much to his disgust and surprise, at once procured his discharge, for the Englishman, wearied of the company and the vagaries of such a tantalising Munchausen, preferred trusting to his own unaided observations, and went off alone until he arrived at New Granada. This was a glorious country, where the climate and vegetation varied as by magic, where the long purple line of the Cordilleras lay between him and the glowing skies, now light and vapoury, now solid as the ramparts of some giant's fortress, a gloriously fair land in which to linger idly ; but Robert had his task before him, and so went riding on to sleepy Maraquita, once a busy city because of the rich convoys of silver and of gold passing through it to be shipped away by Spanish galleon loads, but now with its glory all passed by.

It had been rightly surmised in far-off Europe that deep in the earth hereabouts there still lay hidden much precious metal. But the engineer found that the task of discovery and rummaging it out of these old mines was a very perplexing and difficult business, for time and neglect had done their best to hide each token and trace, the civil authorities were not inclined to be helpful, or the slow lazy natives to

exert themselves in any way or at any price. Evidently nothing was to be done but to send home for miners, and they came, a band of ruddy-faced Cornishmen. "Tre Pol and Pen," sturdy and skilled, but so rude, rough, and self-willed that our poor Robert grew more perplexed than ever when they quarrelled, fought, and drank, instead of working hard as he had hoped. When he would have interfered, they coolly informed him that a north countryman like himself could not possibly understand mining—no one did but Cornishmen, born as it were to the matter, and having all experience as to ores. Truly Robert had now to remember and practise his father's motto.

No wonder that under all these ever-recurring disappointments and annoyances poor Robert should droop and turn home-sick in this lovely, strange, far away land. But he was his father's true son, and remembering that duty bound him to do his best, he overcame his own troubled feelings and perplexity as best he could, and by patience and judgment not only kept these rebellious troops in order, but finally set the whole thing bravely working, and saw a certain amount of silver obtained, though certainly not as much as the Columbian Company had expected, or desired to disinter.

The mines now overhauled were those of Santa Anna, near which, that he might the better keep order, Robert lived in a tiny bamboo house, roofed in with spreading palm leaves, and dried reeds. This

was a mansion of the bird-nest order of architecture, not easily blown over, or upset even by one of the frequent local earthquakes. It was perched on a hill from which could be seen a splendid prospect extending to the far Andes, and about it flew pretty things all scarlet and gold, butterflies larger than the humming birds, but no brighter than the strangely-shaped blossoms into which they dipped for honey. No words can do justice to the intense glory of Nature hereabouts, yet for all that Robert's heart and memory were for ever far off, even in the poor Colliery Row where he had played as a baby boy, or in the humble one-roomed cottage where he had "helped father," where together they had read and worked, and studied out the sun-dial matter. Sometimes he fancied he could see its rough inscription, written as it were in golden characters athwart the crimson sky, or beyond, where the tall cedars lay thick in the valley, "August 11, mdccvi." At such times he cared for the purple tropic birds, only in as much as they reminded him of the thrushes and finches about Low Moor, and of the ingenious "Fley-Craw" "he and father" had busied over in those happy old days, when neighbours dubbed the crowded cottage a regular curiosity shop. Dear little home, with all its smoky surroundings glorified or forgotten, because of the tender atmosphere of love and social kindness that had made it as a holy thing to the young man's remembrance.

Three years passed by, and his engagement honourably ended, Robert started for home, the more eagerly that he knew his father needed him, for had not kindly and discreet Edward Pease written in haste :—

“ Friend Robert—I can assure thee that the business at Newcastle, as well as thy father’s engineering, have suffered very much from thy absence. Unless thou returnest soon, the former will be given up.”

Given up! The factory in which his father had invested the thousand pounds—the place they had both toiled to raise. Given up! Not if that father’s son could hinder by any amount of exertion; so home he came after many perils from storm and shipwreck. A happy greeting followed between these two, once more hand-in-hand; and of a surety well was it that Robert had returned—for his father, having so much to endure and to do concerning the now rapidly advancing Liverpool and Manchester Railway, had been unable to attend personally and properly to the factory which it had cost him so much every way to start, and where in later times, we read of more than a thousand skilled men being engaged in the making of first-rate locomotives and all pertaining to them.

When we speak of the long talked-of Railway being nearly completed, you may naturally suppose all that now remained to be done was to set the trains steaming along on it. Just so. But even now, when Liverpool was tunnelled, and Chat Moss railed and ready, it had not been decided, and it really seemed

as though it never would be decided, what kind of power was to be used? True, fewer folk than of old were in hot favour of horses being employed to drag the trains, because of the amount of traffic which seemed probable on this line, though the Newcastle and Carlisle Act was passed conditionally that it should be worked by horses only.

Concerning engines, it was evident that very few indeed agreed with Mr. Pease or George Stephenson as to the merits of the locomotive, preferring the fixed engine—twenty-one of which were to be fixed a mile and a half apart, and drag the trains this intermediate distance by means of ropes—to the “travelling engine” which this north countryman so desired to see in use, but which the leading engineers of the day scarcely yet condescended to notice. All this was very confusing to anxious directors, willing and wishful to do for the best, but bewildered with projects, likely and unlikely, which came pouring in from all quarters.

At last, in very desperation of pleasing folk, they settled the matter in the best possible way. Their line, surveyed and laid down by Stephenson, being completed, they suddenly decided upon offering a prize of £500 for the best locomotive, this prize to be publicly competed for at Liverpool; each engine to run at no less a speed than ten miles an hour, and not to weigh over six tons. (Some of our modern leviathans weigh eighty tons.) Besides these there were many other conditions. Well was it that our

affectionate and skilful Robert was by his anxious, over-worked father's side again, ready to aid and advise, in solving and resolving, whatever mechanical difficulties might arise during the construction of this locomotive—which both father and son had determined should finally settle all doubts as to the powers of steam, and triumphantly win the prize ; as it did, not so much by anything startlingly new as by the simplicity and accuracy of all its parts. In its leading principles, the locomotive remains the same to this day ; but if you would judge of “The Rocket,” over which Stephenson spent all skill, care, and ability, it can be seen any day in the Kensington Museum, alongside of that other venerable trophy—“Puffing Billy” of Wylam.

Here let me add that Stephenson had made many advances since the old “Blucher” days, and had gone on improving in every way. Among the most important contrivances for speed in this new engine were the tubes, passing from end to end of the boiler, by which means a large additional surface was exposed to the heat, and so a higher temperature maintained by means of less fuel than usual. This tubular boiler was indeed the great fact of this new locomotive, as without it steam had never yet been produced rapidly enough. Then, too, by burning coke instead of coal even the much-objected-to smoke was suppressed to a great degree.

This “Rocket,” though it was ready first—George's

work was always ready first—did not have all the chances to itself, for there also entered in competition several other locomotives. Four only were chosen to run, being the "Novelty," "Sanspareil," "Perseverance," and "Rocket." These were to be tried separately, each to make twenty trips up and down, on a rail about two miles long.

Each side of the line was crammed on trial day with eager lookers-on, for this time the great question of steam travelling was to be impartially solved. The crowd pronounced for the engines, discussing their merits and chances as though they had been rare race horses. There was betting by smartly-dressed enthusiastic gentlemen and ladies in carriages, and by country betting men on foot. Stephenson's "Rocket" was by no means the favourite. Even the three judges appointed to carefully award the prize doubted its capabilities and hinted at its failure. Great surprise was felt when, as being the first entered, it made the first start, and ran some six trips, that is, twelve miles straight off in fifty-three minutes—very fair indeed, but the bettors betted still.

For what about the others? especially the almost elegant "Novelty." This was peculiar, in that the air was driven through the fire by means of bellows, an arrangement that proved fatal, for soon these bellows burst, and the poor "Novelty" had to be led off in disgrace, while the smartly-polished "Perseverance" only managed to run six miles an hour. As to the

"Sanspareil," which is to be seen alongside of the "Rocket," its boiler went wrong in a little time.

Out of them all, Stephenson's "Rocket" was the one engine that not only fulfilled all conditions as to size and weight, but achieved, not twelve, but thirty-five miles an hour, a speed beyond all precedent, and a result which brought a crowd of eager admirers to loudly congratulate the man they had so lately scorned as an "idle visionary, who had daringly spoken of a railroad locomotive as the world's coming missionary."

"Persevere"—the motto led to fame and fortune. From the day George drove his engine across Chat Moss, at the rate of thirty miles an hour, railway travelling became an established fact of national importance; and "the great self-taught man," as the Bishop of Oxford has termed him, assisted by Robert, his son, untiringly devoted all his energies to the improvement of railway engineering, and the planning of lines in England and abroad. Robert was also soon making a high reputation for himself, and it is pleasant to know that this child of many cares ever showed the most filial respect and tenderness, proudly declaring, "I never had but two loves, one for my father, the other for my wife." Yet no wonder that his own son thought so much of our great worker, when we read such an interesting personal account of him as this one, written by Mrs. Butler, who tells how in 1831, she had "the supreme honour" of standing

by George Stephenson's side during a trial trip on the new line, adding :—

"All that wonderful history, as much more interesting than a romance, as truth is stranger than fiction, which Mr. Smiles' biography of the projector has given to the world, I then heard from his own lips. He was rather a stern-featured man, with a dark and deeply-marked countenance. His speech was strongly inflected with his native Northumbrian accent, but the fascination of that story told by himself, while his tame dragon flew panting along his iron pathway with us, passed the first reading of the 'Arabian Nights,' the incidents of which it seemed to recall.

"He was wonderfully condescending and so kind in answering all the questions of my eager ignorance, and I listened to him with eyes brimful of warm tears of sympathy and enthusiasm, as he told me of all his alternations of hopes and fears, of his many trials and disappointments, relating with fine scorn how the 'Parliament men' had badgered and baffled him with their book-knowledge; and how, when at last they thought they had smothered the irrepressible prophecy of his genius in the quaking depths of Chat Moss, he had exclaimed, 'Did ye ever see a coal float on the water? I will make my road float on Chat Moss.'

"We were introduced to the little engine which was to drag us along the rails. She—for they make these curious little engines all mares—consisted of a boiler, a

stove, a platform, a bench, and behind the bench a barrel containing enough water to prevent her being thirsty for fifteen miles, the whole machine not bigger than a common fire-engine. She goes upon two wheels, which are her feet, and are moved by bright steel legs called pistons: these are propelled by steam, and in proportion as more steam is applied to the upper extremity of these pistons, the faster they move the wheels; and when it is desirable to diminish the speed, steam evaporates through a safety-valve into the air.

"The reins, bit, and bridle of this wonderful beast, is a small steel handle, which applies or withdraws the steam from its legs or piston, so that a child might manage it. The coals, which are its oats, were under the bench, and there was a small glass tube affixed to the boiler, with water in it, which indicates by its fulness or emptiness when the creature wants water, which is immediately conveyed to it. There is a chimney to the stove, but, as they burn coke, there is none of the dreadful black smoke which accompanies the progress of a steam-vessel. This snorting little animal, which I felt rather inclined to pat, was harnessed to our carriage, and Mr. Stephenson having seated me on the bench of the engine, we started. I felt as if no fairy tale was ever half so wonderful as what I saw. Bridges were thrown from side to side across the tops of great masses of stone, that had been cut asunder to allow our passage thus far.

"After proceeding through this rocky defile, we

presently found ourselves raised upon embankments ten or twelve feet high ; we then came to a moss or swamp of considerable extent, on which no human foot could tread without sinking, and yet it bore the iron road which bore us.

“Where the road traversed a wide and deep valley, Stephenson made me alight, and led me down to the bottom of a ravine, over which, in order to keep his road level, he had thrown a magnificent viaduct of nine arches, the middle of which is seventy feet high. He told many curious things concerning this ravine—how he believed the Mersey had once rolled through it ; how the soil had proved so unfavourable for the foundation of his bridge, ‘that it was built upon piles which had been driven into the earth to an enormous depth ; how, while digging for a foundation, he had come to a tree bedded in the earth fourteen feet below the surface ; how tides are caused ; and how another flood might be caused ; all of which I have remembered and noted down.’ ”

She gives other pleasant details, which I have no room for here, adding enthusiastically, “I would rather pass a day with Stephenson than with Lord A——, though the one is a coal-digger by birth, who occasionally murders the King’s English, and the other is the keenest wit and one of the finest gentlemen about town. But Stephenson’s attributes of genius, industry, mental power and perseverance are his own, individually ; while Lord A——’s gifts and graces

(his wit indeed excepted), are, in a good measure, those of his whole social set."

Many great undertakings followed, which I may not find space for here, but the seal was set upon George Stephenson's fame as a railway engineer when, in 1844, he came, with his already celebrated son, and many enthusiastic friends, to visit the old town of Newcastle, to which he had travelled direct from London in nine hours, by that iron road he had lately planned, and the like of which he once predicted, though mocked at as a dreamer, should become the world's highway.

The fine old centre and capital of the north, set its joy bells ringing, and publicly received him and his son with much honourable glorification, holding the day as a great festival, and one to be remembered in its annals. The young working men crowded to hear this great self-made hero of peace, who modestly told them the story of his struggles when, like them, he depended on his strong arms and heart. He gave one and all kind words of advice and encouragement, bidding them believe in industry, education and perseverance, rather than in any mere good or ill luck; though George's own career was certainly no bad illustration of the old proverb that heads this chapter, and which we shall all do well to believe in and trust.

CHAPTER X.

"THE END CROWNS THE WORK."

"Oh, blest retirement—friend to life's decline—
How blest is he who crowns, in shades like thine,
A youth of labour with an age of peace."

Goldsmith.

GEORGE STEPHENSON'S later years were spent at Tapton Hall—a pleasant country house, surrounded by fine grounds, from which could be had peeps at the quaint old town of Chesterfield, about which the land is now all dotted with pit hillocks and furnace fires, and cottage homes for the colliers. Everyone knows of that slim spire in Chesterfield, two hundred and thirty feet high, all a-twist, and bending some six feet from its base. Some wiseacres have declared this is an optical delusion, owing to the diagonal lines in the lead-work; but others know it is owing to ill-seasoned timbers.

There are numberless odd legends connected with the crook in this ancient place, one of the oddest being, that as a demon was flying across Derbyshire he paused to rest in mid-air, taking a seat on this, the tallest spire; then, because of the draught, no doubt he gave a mighty sneeze, which shook the old place out of its perpendicular, as now we see it.

Another legend tells how, in story times, so very,

very good a woman came towards the church to be married in it, that the tall spire could not resist bowing down to look at her—and, what is more peculiar—that when it again sees as good a woman coming for the same purpose, it will once more rear itself as straight as a spire ought to be. As yet, to quote the old rhyme:—

“ Whichever way you turn your eye,
It always seems to be awry ;
Pray can you tell the reason why ?
The only reason known, of weight,
Is that the thing is never straight,
Nor know the people where to go,
To find a man to make it so ;
Since none can furnish such a plan,
Except a perfect upright man.
So that's the thing, 'tis very plain,
For ages crooked must remain ;
And while it stands must ever be
An emblem of deformity ; ”

though I do not believe Chesterfield folk think their quaint spire the emblem of any such objectionable thing.

“ I have no notion of a truly great man who cannot be all sorts of men,” says Carlyle ; so surely he would have had a great “ notion ” of this engineer of ours who, in his later days, having resigned the active part of his profession to his other clever self, Robert, became to a certain degree another sort of man—an active, contented, country gentleman, taken up with farming questions, and as interested in growing prize fruits and vegetables as he had once been in planning

a safety lamp, or in the relative merits of wide and narrow gauges; for just as in youth he had grown big cabbages and cauliflowers, now he cultivated grapes and pines, the size of which were the boast of the county shows. And as he had directed and trained hundreds of hardy and reckless navvies, so now he had a following of rosy gardeners. Luckily his difficulties centred, not in obstinate people, but in huge melons and wayward cucumbers, with whose silly wild fashion of growing he struggled, even as he had done with the difficulties of lamps, iron roads, and slow steam engines; for the over-big cucumbers tried hard to keep unsightly and crooked, even though he humoured them all ways and studied the heat and light such things required. In spite of his efforts they twisted and twirled after their own free fashion, much to the annoyance of their grower, whose correct eye could not bear to see things a-twist, defying all his patience, until the brilliant idea of inserting them early in long straight tubes occurred to him, then they *had* to grow as he wished, and he cried delightedly, "See, I ha' bothered them the noo."

And so he "bothered" his as yet rare foreign melons into growing bigger and rounder than any in Derbyshire by imagining a kind of wire nest, in which they could lie and ripen, unaffected by darkness and chill. He watched the erection of his immense new pine-houses as closely as ever he had watched the putting together of that famous old "Rocket." All

trifles to tell of, maybe ; but trifles that mean much in connection with this dignified old gentleman, with the white hair and kindly blue eyes, who might often be seen strolling about, followed by his dogs, wandering in the pleasant lanes, over hill and dale, generally with some old friend, who could sympathise with the never-ending wonders, the thousand delights, which long years before lowly "Old Bob," between the intervals of shovelling coals into a furnace, had taught his son were to be found stored in such places—were it but a tangled web, a leaf weighed down by dew ; nothing was lost on this man the world so delighted to honour. He thought of higher things, too, as when once a friend, seeing him gaze earnestly at the star-lighted sky, observed that after all, man was but an insignificant creature in the face of such wonders, he answered abstractedly :

"But how wonderful a creature man must be to be able to think and reason, and even in some measure to comprehend works so infinite !"

George Stephenson died in 1848 ; a useful and benevolent gentleman, respected and honoured by all, as a simple tablet in the church at Chesterfield tells.

The last scene I would record, occurred on the 9th of June, 1881, on the centenary of his birth.

Almost a hundred years ago we showed our little Georgie Steve cheerfully "hauldin' gentlemen's horses" at Newcastle Lammas Fair time, that he might win for his sister the bonnet on which she had set her mind.

In 1881 the ancient city was all astir again, not because of a fair this time, but celebrating the centenary of this, her honoured son's birth. There were tall venetian masts, and flags waving everywhere ; his fine statue, in Neville Street—near that same Literary Institute that had been of such use to him as a poor man—was wreathed with gay summer flowers ; and from every direction streamed a great crowd of working men, cheering at the sight of a procession of new engines, twelve modern iron pilgrims, bound—from the fine Central Station—for the spot where the "Founder of Railways" was born, and, where already waited the five patriarchs of their kind, even to "Puffing Billy," and that very Killingworth "Blucher" the first of the locomotives over which he had laboured so patiently and long.

Hither came express all the civic officers and celebrities of the north, and south too, for now people could visit this part of our own country. It was no longer considered as inhabited by savages, or something very strangely like it, as it was supposed of old, when stay-at-home folk knew very little of each other, except by hearsay, which is apt to be prejudiced, and to report more of evil than good.

Opposite the little shabby, one-roomed house in the High Street, just about where bare-footed Geordie had so often watched old "Billy" slowly creaking by, the fine new train stopped, while the chief magistrate of Newcastle alighted and planted an oak tree to commemorate

the occasion; then the party returned to join in the endless procession formed by forty thousand pitmen of Durham and Northumberland, and by deputations from all parts. While this was going on in the old northern city, George's birthday was celebrated with all honour at Venice, Liège, Amiens, even in far off Rome, where his statue was unveiled with much ceremony. Everywhere, at home and abroad, men delighted to honour the memory of this man, who, beginning life as a poor little bare-footed cowherd, earning twopence a day, ended it a millionaire—the useful results of whose busy life extended to every part of the civilised world—Nature's gentleman, whose boast it was that he had no titles, no flourishes to his name before or after, being simply known as "George Stephenson, the Founder of the Railway Locomotive System." And surely that was enough.

As George Stephenson constructed railways, so Robert, his son, planned and constructed the railway bridges they necessitated. One of the most celebrated of which is the the picturesque High Level Bridge, four thousand feet long, with its broad carriage roadway and the railway above it, which spans the valley of the Tyne, crossing with all security the same steep depth with the flowing river and the blackened surroundings so dangerous to passengers, which, precisely a hundred years before—for the first pile was driven in 1846—had been surveyed with such disgust by Culloden Cumberland and his followers.

One of the first great difficulties which Robert found in starting this "spyder well brigg" over the Tyne was the safe securing of the many huge piers required. Pile-driving was usually done by a somewhat slow and uncertain arrangement of "slide," ram, and "monkey," that is, by a mass of iron descending on the piles from a considerable height and steadily knocked them in; but this process was unsuitable for the mighty work now to be attempted. Thenceforth our foreseeing engineer summoned to his assistance a mighty monster but lately heard of, a huge restless creature of iron and steam, called into being by Nasmyth, one of the "men of metal" to whom the working world owes so much. The President of the British Association said of its powers, "At the first trial it did in four minutes and a half the work which by manual labour could only be done in twelve hours, and was perfectly successful from the first moment." This was its first effort at pile-driving.

Certainly it had a most irresistible eloquence of its own, the strokes of this mighty hammer coming down at such a rate (one every second) that strange to tell it often happened the pile head was all aflame and alight under the violence of its blows; but in it was driven, making way for another pile that was all ready to follow in a kind of mud game of "follow-my-leader," right down into the solid bed of the river where it was fixed for aye.

So the High Level Bridge was begun, but we

have not space to tell of half the difficulties our engineer had to encounter and struggle with, before that same marvellous structure was safely hung in its place, for when the piles had been driven, and the coffer dam artfully formed, and the water forced out so as to lay almost bare the bed of the "Coaly Tyne," the strong water would still force its way through the quicksands below, and work and money were wasted and spent in vain attempts to keep the water out. Like a living enemy it long refused to be baffled or foiled, yet it must be stopped. At length this was accomplished by means of, I should be afraid to say how much concrete and rubble cleverly disposed of up to the level of the tops of the piles; then came a foundation of stone blocks, and at last the work was fairly started, which, when finished, was to be aptly styled the "King of Railway Bridges." It was opened in 1849.

There are many more things that I would like to tell of,* but I have not space to mention, even by name, all Robert Stephenson's triumphs of engineering skill—the last, and most remarkable, of which was the wonderful Victoria Tubular Bridge, crossing that wide and rapid river the St. Lawrence, and thus connecting the Grand Trunk Railway of Canada, at Montreal, with the seaboard. This splendid undertaking was

* For fuller details, let me refer my readers to Dr. Smiles' "*Lives of the Engineers*," to which valuable work I am indebted for the main facts in this little volume.

commenced in 1854, and finally opened for traffic by the Prince of Wales in 1859.

This mighty bridge, reared on twenty-four enormous piers, is almost two miles in length. The road runs through gigantic iron tubes, which are fashioned out of some ten thousand tons of metal, and pass some sixty feet above the flowing foaming river, which the train takes nine minutes to steam across. Its piers contain 8,000 tons of solid masonry.

Although an unprecedented marvel of its kind, a greater marvel is, that it was drafted, calculated and estimated for by Robert Stephenson, who, after only one short visit to Canada, was able to work out the great scheme, which of itself would make his name famous. Unfortunately he died just before this crowning work was completed, that is, in 1859, eleven years after the father he had such good cause to love and honour--the father who had left almost unlimited wealth to the deserving son, whom Oxford named Doctor of Civil Laws, who was M.P., and President of the Institute of Civil Engineers—not to mention innumerable foreign crosses and orders with which Continental Powers delighted to honour the skilful Englishman, who had done so much to advance mutual commerce and communication throughout the world. Robert Stephenson—whose name in the old Teutonic language is, we are told, derived from "Son of the Strong"—now lies in Westminster Abbey by Telford the

shepherd's son of Eskdale. Truly of each it might be said—

“He was famous, sir, in his profession, and it was his great right to be so.”

“The world's ruled by steam,
And all the men and women are its subjects.
It guides their movements and their whereabouts;
And this steam, in its time, plays many parts;
Its acts being seven ages—at first, the kettle,
Hissing and sputtering on a kitchen hob,
And then NEWCOMEN'S engine, to its piston,
By atmospheric pressure, giving force
Imperfectly to pumps. Then WATT'S condenser,
More economic, with its stuffing-box,
And double-acting movement. Then a steam-boat
Full of strange smells, and crammed like NOAH'S ark,
(It on high pressure, sudden and quick to explode),
Raising up FULTON'S reputation
In everybody's mouth. Then the steam-horse,
By STEPHENSON devised—on Walls End fed,
With boiler grimed, and wheels of clumsy cut,
Spurring brass knobs and copper ornaments,
And so he plays his part. The sixth age shifts
Into the war of broad and narrow gauge;
Brunel on one, Hudson on t'other side,
Their several lines stretching a world too wide
For the Committee's and Steam's manly voice
That, in the kettle's childish treble piped,
Now mighty over all the world. Last scene of all
That ends this strange eventful history,
Is general brotherhood, and mere oblivion
Of troops, of wars, of blood, and all such things.”

—*Punch*, 1847.

*(Our Portrait of George Stephenson is from a Print published by
H. Graves & Co., Pall Mall, London.)*

Illustrated, Fine-Art, and other Volumes.

- Art, The Magazine of. Yearly Volume. With 500 choice Engravings. 16s.
- After London; or, Wild England. By RICHARD JEFFERIES. 10s. 6d.
- Bismarck, Prince. By CHARLES LOWE, M.A. Two Vols., demy 8vo. With two Portraits. 24s.
- Bright, John, Life and Times of. By W. ROBERTSON. 7s. 6d.
- British Ballads. With 275 Original Illustrations. Two Vols. Cloth, 7s. 6d. each.
- British Battles on Land and Sea. By JAMES GRANT. With about 600 Illustrations. Three Vols., 4to, £1 7s.; Library Edition, £1 10s.
- British Battles, Recent. Illustrated. 4to, 9s.; Library Edition, 10s.
- Butterflies and Moths, European. By W. F. KIRBY. With 61 Coloured Plates. Demy 4to, 35s.
- Canaries and Cage-Birds, The Illustrated Book of. By W. A. BLAKSTON, W. SWAYSLAND, and A. F. WIENER. With 56 Fac-simile Coloured Plates, 35s. Half-morocco, £2 5s.
- Cassell's Family Magazine. Yearly Vol. Illustrated. 9s.
- Cathedral Churches of England and Wales. With 150 Illustrations. 21s. *Édition de luxe*, £2 2s.
- Changing Year, The. With Illustrations. 7s. 6d.
- Choice Dishes at Small Cost. By A. G. PAYNE. 3s. 6d.
- Choice Poems by H. W. Longfellow. Illustrated. 6s.
- Cities of the World: their Origin, Progress, and Present Aspect. Three Vols. Illustrated. 7s. 6d. each.
- Clinical Manuals for Practitioners and Students of Medicine. A List of Volumes forwarded post free on application to the Publishers.
- Colonies and India, Our, How we Got Them, and Why we Keep Them. By Prof. C. RANSOME. 1s.
- Columbus, Christopher, The Life and Voyages of. By WASHINGTON IRVING. Three Vols. 7s. 6d.
- Cookery, Cassell's Dictionary of. Containing about Nine Thousand Recipes, 7s. 6d.; half-roan, 9s.; Roxburgh, 10s. 6d.
- Co-operators, Working Men: What they have Done, and What they are Doing. By A. H. DYKE-ACLAND and B. JONES. 1s.
- Cookery, A Year's. By PHYLLIS BROWNE. Cloth gilt, or oiled cloth, 3s. 6d.
- Countries of the World, The. By ROBERT BROWN, M.A., Ph.D., &c. Complete in Six Vols., with about 750 Illustrations. 4to, 7s. 6d. each.
- Cromwell, Oliver: The Man and his Mission. By J. ALLANSON PICTON, M.P. Cloth, 7s. 6d.; morocco, cloth sides, 9s.
- Cyclopædia, Cassell's Concise. With 12,000 subjects, brought down to the latest date. With about 600 Illustrations, 15s.; Roxburgh, 18s.
- Dairy Farming. By Prof. J. P. SHELTON. With 25 Fac-simile Coloured Plates, and numerous Wood Engravings. Cloth, 31s. 6d.; half-morocco, 42s.
- Decisive Events in History. By THOMAS ARCHER. With Sixteen Illustrations. Boards, 3s. 6d.; cloth, 5s.

Selections from Cassell & Company's Publications.

- Decorative Design, Principles of. By CHRISTOPHER DRESSER, Ph.D. Illustrated. 5s.
- Deserted Village Series, The. Consisting of *Éditions de luxe* of the most favourite poems of Standard Authors. Illustrated. 2s. 6d. each.
- | | |
|--------------------------------------|--|
| GOLDSMITH'S DESERTED VILLAGE. | WORDSWORTH'S ODE ON IMMORTALITY, AND LINES ON TINTERN ABBEY. |
| MILTON'S L'ALLEGRO AND IL PENSEROSO. | |
- Dickens, Character Sketches from. SECOND and THIRD SERIES. With Six Original Drawings in each, by FREDERICK BARNARD. In Portfolio, 21s. each.
- Diary of Two Parliaments. The Disraeli Parliament. By H. W. LUCY. 12s.
- Dog, The. By IDSTONE. Illustrated. 2s. 6d.
- Dog, Illustrated Book of the. By VERO SHAW, B.A. With 28 Coloured Plates. Cloth bevelled, 35s.; half-morocco, 45s.
- Domestic Dictionary, The. An Encyclopædia for the Household. Cloth, 7s. 6d.
- Doré's Adventures of Munchausen. Illustrated by GUSTAVE DORÉ. 5s.
- Doré's Dante's Inferno. Illustrated by GUSTAVE DORÉ. *Popular Edition*, 21s.
- Doré's Don Quixote. With about 400 Illustrations by DORÉ. 15s.
- Doré's Fairy Tales Told Again. With 24 Full-page Engravings by GUSTAVE DORÉ. 5s.
- Doré Gallery, The. *Popular Edition* With 250 Illustrations by GUSTAVE DORÉ. 4to, 42s.
- Doré's Milton's Paradise Lost. With Full-page Drawings by GUSTAVE DORÉ. 4to, 21s.
- Edinburgh, Old and New, Cassell's. Three Vols. With 600 Illustrations. 9s. each.
- Educational Year-Book, The. 6s.
- Egypt: Descriptive, Historical, and Picturesque. By Prof. G. EBERS. Translated by CLARA BELL, with Notes by SAMUEL BIRCH, LL.D., &c. Two Vols. With 800 Original Engravings. Vol. I., £2 5s.; Vol. II., £2 12s. 6d. Complete in box, £4 17s. 6d.
- Electrician's Pocket-Book, The. By GORDON WIGAN, M.A. 5s.
- Encyclopædic Dictionary, The. A New and Original Work of Reference to all the Words in the English Language. Nine Divisional Vols. now ready, 10s. 6d. each; or the Double Divisional Vols., half-morocco, 21s. each.
- Energy in Nature. By WM. LANT CARPENTER, B.A., B.Sc. 80 Illustrations. 3s. 6d.
- England, Cassell's Illustrated History of. With 2,000 Illustrations. Ten Vols., 4to, 9s. each.
- English History, The Dictionary of. Cloth, 21s.; Roxburgh, 25s.
- English Literature, Library of. By Prof. HENRY MORLEY.
- | | |
|---|--|
| VOL. I.—SHORTER ENGLISH POEMS, 12s. 6d. | VOL. II.—ILLUSTRATIONS OF ENGLISH RELIGION, 11s. 6d. |
| VOL. III.—ENGLISH PLAYS, 11s. 6d. | VOL. IV.—SHORTER WORKS IN ENGLISH PROSE, 11s. 6d. |
| VOL. V.—SKETCHES OF LONGER WORKS IN ENGLISH VERSE AND PROSE, 11s. 6d. | |
- Five Volumes handsomely bound in half-morocco, £5 5s.
- Volumes I., II., and III. of the *Popular Edition* are now ready, price 7s. 6d. each.
- English Literature, The Story of. By ANNA BUCKLAND. 5s.

Selections from Cassell & Company's Publications.

- English Literature, Dictionary of. By W. DAVENPORT ADAMS.
Cheap Edition, 7s. 6d.; Roxburgh, 10s. 6d.
- English Poetesses. By ERIC S. ROBERTSON, M.A. 5s.
- Æsop's Fables. With about 150 Illustrations by E. GRISET. Cloth,
7s. 6d.; gilt edges, 10s. 6d.
- Etiquette of Good Society. 1s.; cloth, 1s. 6d.
- Family Physician, The. By Eminent PHYSICIANS and SURGEONS.
Cloth, 21s.; half-morocco, 25s.
- Far, Far West, Life and Labour in the. By W. HENRY BARNEBY.
With Map of Route. Cloth, 16s.
- Fenn, G. Manville, Works by. *Popular Editions*. Cloth boards,
2s. each.
- SWEET MACE. | THE VICAR'S PEOPLE.
DUTCH, THE DIVER; OR, A MAN'S | COBWEB'S FATHER, AND OTHER
MISTAKE. | STORIES.
MY PATIENTS. Being the Notes | THE PARSON O' DUMFORD.
of a Navy Surgeon. | POVERTY CORNER.
- Ferns, European. By JAMES BRITTEN, F.L.S. With 30 Fac-simile
Coloured Plates by D. BLAIR, F.L.S. 21s.
- Festival Tales. By J. F. WALLER. 3s. 6d.
- Field Naturalist's Handbook, The. By the Rev. J. G. WOOD
and THEODORE WOOD. 5s.
- Figuier's Popular Scientific Works. With Several Hundred Illustrations
in each. 3s. 6d. each; half-calf, 6s. each.
- THE HUMAN RACE. | THE OCEAN WORLD.
WORLD BEFORE THE DELUGE. | THE VEGETABLE WORLD.
REPTILES AND BIRDS. | THE INSECT WORLD.
- MAMMALIA.
- Fine-Art Library, The. Edited by JOHN SPARKES, Principal of the
South Kensington Art Schools. Each Book contains about 100
Illustrations. 5s. each.
- TAPESTRY. By Eugene Müntz.
Translated by Miss L. J. Davis.
- ENGRAVING. By Le Vicomte Henri
Delaborde. Translated by R.
A. M. Stevenson.
- THE ENGLISH SCHOOL OF PAINTING.
By E. Chesneau. Translated
by L. N. Etherington. With an
Introduction by Prof. Ruskin.
- THE FLEMISH SCHOOL OF PAINTING.
By A. J. Wauters. Translated
by Mrs. Henry Rossel.
- GREEK ARCHÆOLOGY. By Maxime
Collignon. Translated by Dr.
J. H. Wright, Associate Pro-
fessor of Greek in Dartmouth
Coll., U.S.A.
- ARTISTIC ANATOMY. By Prof.
Duval. Translated by F. E.
Fenton.
- THE DUTCH SCHOOL OF PAINTING.
By Henry Havard. Translated
by G. Powell.
- Fisheries of the World, The. Illustrated. 4to. 9s.
- Five Pound Note, The, and other Stories. By G. S. JEALOUS. 1s.
- Forging of the Anchor, The. A Poem. By SIR SAMUEL FERGUSON,
LL.D. With 20 Original Illustrations. Gilt edges, 5s.
- Fossil Reptiles, A History of British. By SIR RICHARD OWEN,
K.C.B., F.R.S., &c. With 268 Plates. In Four Vols., £12 12s.
- Four Years of Irish History (1845-49). By SIR GAVAN DUFFY,
K.C.M.G. 21s.
- Franco-German War, Cassell's History of the. Two Vols. With
500 Illustrations. 9s. each.

Selections from Cassell & Company's Publications.

- Garden Flowers, Familiar.** FIRST, SECOND, THIRD, and FOURTH SERIES. By SHIRLEY HIBBERD. With Original Paintings by F. E. HULME, F.L.S. With 40 Full-page Coloured Plates in each. Cloth gilt, in cardboard box (or in morocco, cloth sides), 12s. 6d. each.
- Gardening, Cassell's Popular.** Illustrated. Vols. I., II., and III., 5s. each.
- Gladstone, Life of W. E.** By BARNETT SMITH. With Portrait, 3s. 6d. *Jubilee Edition*, 1s.
- Gleanings from Popular Authors.** Two Vols. With Original Illustrations. 4to, 9s. each. Two Vols. in One, 15s.
- Great Industries of Great Britain.** Three Vols. With about 400 Illustrations. 4to., cloth, 7s. 6d. each.
- Great Painters of Christendom, The, from Cimabue to Wilkie.** By JOHN FORBES-ROBERTSON. Illustrated throughout. 12s. 6d.
- Great Western Railway, The Official Illustrated Guide to the.** With Illustrations, 1s.; cloth, 2s.
- Gulliver's Travels.** With 88 Engravings by MORTEN. *Cheap Edition*, 5s.
- Guide to Employment in the Civil Service.** 3s. 6d.
- Guide to Female Employment in Government Offices.** 1s.
- Gun and its Development, The.** By W. W. GREENER. With 500 Illustrations. 10s. 6d.
- Health, The Book of.** By Eminent Physicians and Surgeons. Cloth, 21s. Half-morocco, 25s.
- Heavens, The Story of the.** By ROBERT STAWELL BALL, LL.D., F.R.S., F.R.A.S., Royal Astronomer of Ireland. With 16 *Separate Plates* printed by Chromo-Lithography, and 90 Wood Engravings. Demy 8vo, 544 pages, cloth. 31s. 6d.
- Heroes of Britain in Peace and War.** In Two Vols., with 300 Original Illustrations. Cloth, 5s. each.
- Horse, The Book of the.** By SAMUEL SIDNEY. With 25 *fac-simile* Coloured Plates. Demy 4to, 31s. 6d.; half-morocco, £2 2s.
- Horses, The Simple Ailments of.** By W. F. Illustrated. 5s.
- Household Guide, Cassell's.** With Illustrations and Coloured Plates. Two Double Vols., half-calf, 31s. 6d.; Library Edition, Two Vols., 24s.
- How to Get on.** With 1,000 Precepts for Practice. 3s. 6d.
- How Women may Earn a Living.** By MERCY GROGAN. 1s.
- India, The Coming Struggle for.** By Prof. ARMINIUS VAMBÉRY. With Map in Colours. 5s.
- India, Cassell's History of.** By JAMES GRANT. With about 400 Illustrations. Two Vols., 9s. each.
- India: the Land and the People.** By Sir JAMES CAIRD, K.C.B. 10s. 6d.
- In-door Amusements, Card Games, and Fireside Fun, Cassell's Book of.** Illustrated. 3s. 6d.
- International Portrait Gallery, The.** Two Vols., each containing 20 Portraits in Colours. 12s. 6d. each.
- Invisible Life, Vignettes from.** By JOHN BADCOCK, F.R.M.S. Illustrated. 3s. 6d.
- Italy.** By J. W. PROBYN. 7s. 6d.
- Kennel Guide, Practical.** By Dr. GORDON STABLES. Illustrated. 2s. 6d.
- Khiva, A Ride to.** By the late Col. FRED BURNABY. 1s. 6d.
- Ladies' Physician, The.** By a London Physician. 6s.

Selections from Cassell & Company's Publications.

- Land Question, The. By Prof. J. ELLIOT, M.R.A.C. 10s. 6d.
- Landscape Painting in Oils, A Course of Lessons in. By A. F. GRACE. With Nine Reproductions in Colour. *Cheap Edition*, 25s.
- Law, About Going to. By A. J. WILLIAMS. 2s. 6d.
- London & North-Western Railway Official Illustrated Guide. 1s.; cloth, 2s.
- London, Greater. By EDWARD WALFORD. Two Vols. With about 400 Illustrations. 9s. each.
- London, Old and New. Six Vols., each containing about 200 Illustrations and Maps. Cloth, 9s. each.
- London's Roll of Fame. With Portraits and Illustrations. 12s. 6d.
- Longfellow's Poetical Works. Illustrated. £3 3s.
- Love's Extremes, At. By MAURICE THOMPSON. 5s.
- Mechanics, The Practical Dictionary of. Containing 15,000 Drawings. Four Vols. 21s. each.
- Medicine, Manuals for Students of. (*A List forwarded post free on application.*)
- Microscope, The; and some of the Wonders it Reveals. 1s.
- Midland Railway, Official Illustrated Guide to the. 1s.; cloth, 2s.
- Modern Artists, Some. With highly-finished Engravings. 12s. 6d.
- Modern Europe, A History of. By C. A. FVFFE, M.A. Vol. I. from 1792 to 1814. 12s.
- National Portrait Gallery, The. Each Volume containing 20 Portraits, printed in Chromo-Lithography. Four Vols., 12s. 6d. each; or in Two Double Vols., 21s. each.
- Natural History, Cassell's Concise. By E. PERCEVAL WRIGHT, M.A., M.D., F.L.S. With several Hundred Illustrations. 7s. 6d.
- Natural History, Cassell's New. Edited by Prof. P. MARTIN DUNCAN, M.B., F.R.S., F.G.S. With Contributions by Eminent Scientific Writers. Complete in Six Vols. With about 2,000 high-class Illustrations. Extra crown 4to, cloth, 9s. each.
- Natural History, Cassell's Popular. With about 2,000 Engravings and Coloured Plates. Complete in Four Vols. Cloth gilt, 42s.
- Nature, Short Studies from. Illustrated. 5s.
- Nursing for the Home and for the Hospital, A Handbook of. By CATHERINE J. WOOD. *Cheap Edition*. 1s. 6d.; cloth, 2s.
- On the Equator. By H. DE W. Illustrated with Photos. 3s. 6d.
- Our Homes, and How to Make them Healthy. By Eminent Authorities. Illustrated. 15s.; half-morocco, 21s.
- Our Own Country. Six Vols. With 1,200 Illustrations. Cloth, 7s. 6d. each.
- Outdoor Sports and Indoor Amusements. With nearly 1,000 Illustrations. 9s.
- Paris, Cassell's Illustrated Guide to. 1s.; cloth, 2s.
- Parliaments, A Diary of Two. By H. W. LUCY. The Disraeli Parliament, 1874—1880. 12s.
- Paxton's Flower Garden. By SIR JOSEPH PAXTON and Prof. LINDLEY. Revised by THOMAS BAINES, F.R.H.S. Three Vols. With 100 Coloured Plates. £1 1s. each.
- Peoples of the World, The. Vols. I. to V. By Dr. ROBERT BROWN. With Illustrations. 7s. 6d. each.
- Perak and the Malays. By Major FRED McNAIR. Illustrated. 10s. 6d.

Selections from Cassell & Company's Publications.

Photography for Amateurs. By T. C. HEFORTH. Illustrated. 1s.; or cloth, 1s. 6d.

Phrase and Fable, Dictionary of. By the Rev. Dr. BREWER. *Cheap Edition, Enlarged*, cloth, 3s. 6d.; or with leather back, 4s. 6d.

Pictures from English Literature. With Full-page Illustrations. 5s.

Pictures of Bird Life in Pen and Pencil. Illustrated. 21s.

Picturesque America. Complete in Four Vols., with 48 Exquisite Steel Plates and about 800 Original Wood Engravings. £2 2s. each.

Picturesque Canada. With about 600 Original Illustrations. Two Vols. £3 3s. each.

Picturesque Europe. Complete in Five Vols. Each containing 13 Exquisite Steel Plates, from Original Drawings, and nearly 200 Original Illustrations. £10 10s.; half-morocco, £15 15s.; morocco gilt, £26 5s. The POPULAR EDITION is published in Five Vols., 18s. each., of which Four Vols. are now ready.

Pigeon Keeper, The Practical. By LEWIS WRIGHT. Illustrated. 3s. 6d.

Pigeons, The Book of. By ROBERT FULTON. Edited and Arranged by LEWIS WRIGHT. With 50 Coloured Plates and numerous Wood Engravings. 31s. 6d.; half-morocco, £2 2s.

Poems and Pictures. With numerous Illustrations. 5s.

Poets, Cassell's Miniature Library of the:—

BURNS. Two Vols. 2s. 6d.

BYRON. Two Vols. 2s. 6d.

HOOD. Two Vols. 2s. 6d.

LONGFELLOW. Two Vols. 2s. 6d.

SHAKESPEARE. Twelve Vols., in case, 15s.

MILTON. Two Vols. 2s. 6d.

SCOTT. Two Vols. 2s. 6d. [2s. 6d.

SHERIDAN and GOLDSMITH. 2 Vols.

WORDSWORTH. Two Vols. 2s. 6d.

Police Code, and Manual of the Criminal Law. By C. E. HOWARD VINCENT. 2s.

Popular Library, Cassell's. A Series of New and Original Works. Cloth, 1s. each.

THE RUSSIAN EMPIRE.

THE RELIGIOUS REVOLUTION

IN THE 16TH CENTURY.

ENGLISH JOURNALISM.

THE WIT AND WISDOM OF

THE BENCH AND BAR.

THE ENGLAND OF SHAKESPEARE.

THE HUGUENOTS.

OUR COLONIAL EMPIRE.

JOHN WESLEY.

THE YOUNG MAN IN THE

BATTLE OF LIFE.

THE STORY OF THE ENGLISH

JACOBS.

DOMESTIC FOLK LORE.

THE REV. ROWLAND HILL:

Preacher and Wit.

BOSWELL AND JOHNSON:

their Companions and Contemporaries.

THE SCOTTISH COVENANTERS.

HISTORY OF THE FREE-

TRADE MOVEMENT IN

ENGLAND.

Poultry Keeper, The Practical. By L. WRIGHT. With Coloured Plates and Illustrations. 3s. 6d.

Poultry, The Illustrated Book of. By L. WRIGHT. With Fifty Exquisite Coloured Plates, and numerous Wood Engravings. Cloth, 31s. 6d.; half-morocco, £2 2s.

Poultry, The Book of. By LEWIS WRIGHT. *Popular Edition*. With Illustrations on Wood, 10s. 6d.

Quiver Yearly Volume, The. With about 300 Original Contributions by Eminent Divines and Popular Authors, and upwards of 250 high-class Illustrations. 7s. 6d.

Rabbit-Keeper, The Practical. By CUNICULUS. Illustrated. 3s. 6d.

Selections from Cassell & Company's Publications.

Rainbow Series, Cassell's, of New and Original Novels. Price 1s. each.
As it was WRITTEN. By S. A. CRIMSON STAIN. By A. Bradshaw.

MORGAN'S HORROR. By G. Manville Fenn.

Rays from the Realms of Nature. By the Rev. J. NEIL, M.A. Illustrated. 2s. 6d.

Red Library of English and American Classics, The. Stiff covers, 1s. each; cloth, 2s. each; or half-calf, marbled edges, 5s.

WASHINGTON IRVING'S
SKETCH BOOK.

THE LAST DAYS OF PALMYRA.

TALES OF THE BORDERS.

PRIDE AND PREJUDICE.

THE LAST OF THE MOHICANS.

THE HEART OF MIDLOTHIAN.

THE LAST DAYS OF POMPEII.

AMERICAN HUMOUR.

SKETCHES BY BOZ.

MACAULAY'S LAYS, AND

SELECTED ESSAYS.

HARRY LORREQUER.

THE OLD CURIOSITY SHOP.

RIENZI.

THE TALISMAN.

Romeo and Juliet. *Édition de Luxe*. Illustrated with Twelve Superb Photographures from Original Drawings by F. DICKSEE, A.R.A. £5 5s.

Royal River, The: The Thames from Source to Sea. With Descriptive Text and a Series of beautiful Engravings. £2 2s.

Russia. By D. MACKENZIE WALLACE, M.A. 5s.

Russo-Turkish War, Cassell's History of. With about 500 Illustrations. Two Vols., 9s. each.

Sandwith, Humphry. A Memoir by his Nephew, THOMAS HUMPHRY WARD. 7s. 6d.

Saturday Journal, Cassell's. Yearly Volume. 6s.

Science for All. Edited by DR. ROBERT BROWN, M.A., F.L.S., &c. With 1,500 Illustrations. Five Vols. 9s. each.

Sea, The: Its Stirring Story of Adventure, Peril, and Heroism.

By F. WHYMPER. With 400 Illustrations. Four Vols., 7s. 6d. each.

Shakspere, The Leopold. With 400 Illustrations. Cloth, 6s.

Shakspere, The Royal. With Steel Plates and Wood Engravings. Three Vols. 15s. each.

Shakespeare, Cassell's Quarto Edition. Edited by CHARLES and MARY COWDEN CLARKE, and containing about 600 Illustrations by H. C. SELOUS. Complete in Three Vols., cloth gilt, £3 3s.

Sketching from Nature in Water Colours. By AARON PENLEY. With Illustrations in Chromo-Lithography. 15s.

Smith, The Adventures and Discourses of Captain John. By JOHN ASHTON. Illustrated. 5s.

Sports and Pastimes, Cassell's Book of. With more than 800 Illustrations and Coloured Frontispiece. 768 pages. 7s. 6d.

Steam Engine, The Theory and Action of the: for Practical Men. By W. H. NORTHCOTT, C.E. 3s. 6d.

Stock Exchange Year-Book, The. By THOMAS SKINNER. 10s. 6d.

Stones of London, The. By E. F. FLOWER. 6d.

"Stories from Cassell's." 6d. each; cloth lettered, 9d. each.

MY AUNT'S MATCH-MAKING.

TOLD BY HER SISTER.

THE SILVER LOCK.

"RUNNING PILOT."

THE MORTGAGE MONEY.

GOURLAY BROTHERS.

A GREAT MISTAKE.

. The above are also issued, Three Volumes in One, cloth, price 2s. each.

Sunlight and Shade. With numerous Exquisite Engravings. 7s. 6d.

Telegraph Guide, The. Illustrated. 1s.

Trajan. An American Novel. By H. F. KEENAN. 7s. 6d.

Selections from Cassell & Company's Publications.

- Transformations of Insects, The. By Prof. P. MARTIN DUNCAN, M.B., F.R.S. With 240 Illustrations. 6s.
- Treatment, The Year-Book of. A Critical Review for Practitioners of Medicine and Surgery. 5s.
- United States, Cassell's History of the. By EDMUND OLLIER. With 600 Illustrations. Three Vols. 9s. each.
- United States, Constitutional History and Political Development of the. By SIMON STERNE, of the New York Bar. 5s.
- Universal History, Cassell's Illustrated. Four Vols. 9s. each.
- Vicar of Wakefield and other Works by OLIVER GOLDSMITH. Illustrated 3s. 6d.
- Wealth Creation. By A. MONGREDIEN. 5s.
- Westall, W., Novels by. *Popular Editions.* Cloth, 2s. each.
- RALPH NORBRECK'S TRUST.
THE OLD FACTORY. RED RYVINGTON.
- What Girls Can Do. By PHYLLIS BROWNE. 2s. 6d.
- Wild Animals and Birds: their Haunts and Habits. By Dr. ANDREW WILSON. Illustrated. 7s. 6d.
- Wild Birds, Familiar. First and Second Series. By W. SWAYSLAND. With 40 Coloured Plates in each. 12s. 6d. each.
- Wild Flowers, Familiar. By F. E. HULME, F.L.S., F.S.A. Five Series. With 40 Coloured Plates in each. 12s. 6d. each.
- Winter in India, A. By the Rt. Hon. W. E. BAXTER, M.P. 5s.
- Wise Woman, The. By GEORGE MACDONALD. 2s. 6d.
- Wood Magic: A Fable. By RICHARD JEFFERIES. 6s.
- World of the Sea. Translated from the French of MOQUIN TANDON, by the Very Rev. H. MARTYN HART, M.A. Illustrated. Cloth. 6s.
- World of Wit and Humour, The. With 400 Illustrations. Cloth, 7s. 6d.; cloth gilt, gilt edges, 10s. 6d.
- World of Wonders. Two Vols. With 400 Illustrations. 7s. 6d. each.

MAGAZINES.

- The Quiver, for Sunday Reading.* Monthly, 6d.
- Cassell's Family Magazine.* Monthly, 7d.
- "Little Folks" Magazine.* Monthly, 6d.
- The Magazine of Art.* Monthly, 1s.
- Cassell's Saturday Journal.* Weekly, 1d.; Monthly, 6d.
- * * Full particulars of CASSELL & COMPANY'S Monthly Serial Publications, numbering upwards of 50 different Works, will be found in CASSELL & COMPANY'S COMPLETE CATALOGUE, sent post free on application.

Catalogues of CASSELL & COMPANY'S PUBLICATIONS, which may be had at all Booksellers, or will be sent post free on application to the publishers:—

CASSELL'S COMPLETE CATALOGUE, containing particulars of One Thousand Volumes.

CASSELL'S CLASSIFIED CATALOGUE, in which their Works are arranged according to price, from Sixpence to Twenty-five Guineas.

CASSELL'S EDUCATIONAL CATALOGUE, containing particulars of CASSELL & COMPANY'S Educational Works and Students' Manuals.

CASSELL & COMPANY, LIMITED, Ludgate Hill, London.

Bibles and Religious Works.

- Bible, The Crown Illustrated. With about 1,000 Original Illustrations. With References, &c. 1,248 pages, crown 4to, cloth, 7s. 6d.
- Bible, Cassell's Illustrated Family. With 900 Illustrations. Leather, gilt edges, £2 10s.
- Bible Dictionary, Cassell's. With nearly 600 Illustrations. 7s. 6d.
- Bible Educator, The. Edited by the Very Rev. Dean PLUMPTRE, D.D., Wells. With Illustrations, Maps, &c. Four Vols., cloth, 6s. each.
- Bunyan's Pilgrim's Progress (Cassell's Illustrated). Demy 4to. Illustrated throughout. 7s. 6d.
- Bunyan's Pilgrim's Progress. With Illustrations. Cloth, 3s. 6d.
- Bunyan's Holy War. With 100 Illustrations. Cloth, 7s. 6d.
- Child's Life of Christ, The. Complete in One Handsome Volume, with about 200 Original Illustrations. Demy 4to, gilt edges, 21s.
- Child's Bible, The. With 200 Illustrations. Demy 4to, 830 pp. 143rd Thousand. Cheap Edition, 7s. 6d.
- Church at Home, The. A Series of Short Sermons. By the Rt. Rev. ROWLEY HILL, D.D., Bishop of Sodor and Man. 5s.
- Day-Dawn in Dark Places; or Wanderings and Work in Bechwanaland, South Africa. By the Rev. JOHN MACKENZIE. Illustrated throughout. Cloth, 3s. 6d.
- Difficulties of Belief, Some. By the Rev. T. TEIGNMOUTH SHORE, M.A. New and Cheap Edition. 2s. 6d.
- Doré Bible. With 230 Illustrations by GUSTAVE DORÉ. Cloth, £2 10s.; Persian morocco, £3 10s.
- Early Days of Christianity, The. By the Ven. Archdeacon FARRAR, D.D., F.R.S.
- LIBRARY EDITION. Two Vols., 24s.; morocco, £2 2s.
- POPULAR EDITION. Complete in One Volume, cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, 10s. 6d.; tree-calf, 15s.
- Family Prayer-Book, The. Edited by Rev. Canon GARBETT, M.A., and Rev. S. MARTIN. Extra crown 4to, cloth, 5s.; morocco, 18s.
- Geikie, Cunningham, D.D., Works by:—
- HOURS WITH THE BIBLE. Six Vols., 6s. each.
- ENTERING ON LIFE. 3s. 6d.
- THE PRECIOUS PROMISES. 2s. 6d.
- THE ENGLISH REFORMATION. 5s.
- OLD TESTAMENT CHARACTERS. 6s.
- THE LIFE AND WORDS OF CHRIST. Two Vols., cloth, 30s. *Students' Edition.* Two Vols., 16s.
- Glories of the Man of Sorrows, The. Sermons preached at St. James's, Piccadilly. By the Rev. H. G. BONAVIA HUNT. 2s. 6d.
- Gospel of Grace, The. By A. LINDSIE. Cloth, 3s. 6d.
- "Heart Chords." A Series of Works by Eminent Divines. Bound in cloth, red edges, One Shilling each.
- | | |
|--------------------|-----------------------------|
| MY FATHER. | MY SOUL. |
| MY BIBLE. | MY GROWTH IN DIVINE LIFE. |
| MY WORK FOR GOD. | MY HEREAFTER. |
| MY OBJECT IN LIFE. | MY WALK WITH GOD. |
| MY ASPIRATIONS. | MY AIDS TO THE DIVINE LIFE. |
| MY EMOTIONAL LIFE. | MY SOURCES OF STRENGTH. |
| MY BODY. | |

Selections from Cassell & Company's Publications.

Life of Christ, The. By the Ven. Archdeacon FARRAR, D.D., F.R.S., Chaplain-in-Ordinary to the Queen.

ILLUSTRATED EDITION, with about 300 Original Illustrations.

Extra crown 4to, cloth, gilt edges, 21s.; morocco antique, 42s.

LIBRARY EDITION. Two Vols. Cloth, 24s.; morocco, 42s.

BIJOU EDITION. Five Volumes, in box, 10s. 6d. the set.

POPULAR EDITION, in One Vol. 8vo, cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, gilt edges, 10s. 6d.; tree-calf, 15s.

Marriage Ring, The. By WILLIAM LANDELS, D.D. Bound in white leatherette, gilt edges, in box, 6s.; morocco, 8s. 6d.

Martyrs, Foxe's Book of. With about 200 Illustrations. Imperial 8vo, 732 pages, cloth, 12s.; cloth gilt, gilt edges, 15s.

Moses and Geology; or, The Harmony of the Bible with Science. By SAMUEL KINNS, Ph.D., F.R.A.S. Illustrated. *Cheap Edition*, 6s.

Music of the Bible, The. By J. STAINER, M.A., Mus. Doc. 2s. 6d.

Near and the Heavenly Horizons, The. By the Countess DE GASPARIN. 1s.; cloth, 2s.

New Testament Commentary for English Readers, The. Edited by the Rt. Rev. C. J. ELLICOTT, D.D., Lord Bishop of Gloucester and Bristol. In Three Volumes, 21s. each.

Vol. I.—The Four Gospels.

Vol. II.—The Acts, Romans, Corinthians, Galatians.

Vol. III.—The remaining Books of the New Testament.

Old Testament Commentary for English Readers, The. Edited by the Right Rev. C. J. ELLICOTT, D.D., Lord Bishop of Gloucester and Bristol. Complete in 5 Vols., 21s. each.

Vol. I.—Genesis to Numbers.

Vol. II.—Deuteronomy to Samuel II.

Vol. III.—Kings I. to Esther.

Vol. IV.—Job to Isaiah.

Vol. V.—Jeremiah to Malachi.

Patriarchs, The. By the late Rev. W. HANNA, D.D., and the Ven. Archdeacon NORRIS, B.D. 2s. 6d.

Protestantism, The History of. By the Rev. J. A. WYLIE, LL.D. Containing upwards of 600 Original Illustrations. Three Vols., 27s.

Quiver Yearly Volume, The. 250 high-class Illustrations. 7s. 6d.

Revised Version—Commentary on the Revised Version of the New Testament. By the Rev. W. G. HUMPHRY, B.D. 7s. 6d.

Sacred Poems, The Book of. Edited by the Rev. Canon BAYNES, M.A. With Illustrations. Cloth, gilt edges, 5s.

St. George for England; and other Sermons preached to Children. By the Rev. T. TEIGNMOUTH SHORE, M.A. 5s.

St. Paul, The Life and Work of. By the Ven. Archdeacon FARRAR, D.D., F.R.S., Chaplain in Ordinary to the Queen.

LIBRARY EDITION. Two Vols., cloth, 24s.; morocco, 42s.

ILLUSTRATED EDITION, complete in One Volume, with about 300 Illustrations, £1 1s.; morocco, £2 2s.

POPULAR EDITION. One Volume, 8vo, cloth, 6s.; cloth, gilt edges, 7s. 6d.; Persian morocco, 10s. 6d.; tree-calf, 15s.

Secular Life, The Gospel of the. Sermons preached at Oxford. By the Hon. W. H. FREMANTLE, Canon of Canterbury. 5s.

Sermons Preached at Westminster Abbey. By ALFRED BARRY, D.D., D.C.L., Primate of Australia. 5s.

Shall We Know One Another? By the Rt. Rev. J. C. RYLE, D.D., Bishop of Liverpool. *New and Enlarged Edition.* Cloth limp, 1s.

Simon Peter: His Life, Times, and Friends. By E. HODDER. 5s.

Voice of Time, The. By JOHN STROUD. Cloth gilt, 1s.

Educational Works and Students' Manuals.

- Algebra, The Elements of. By Prof. WALLACE, M.A., 1s.
- Arithmetics, The Modern School. By GEORGE RICKS, B.Sc. Lond.
With Test Cards. (*List on application.*)
- Book-Keeping:—
Book-Keeping for Schools. By Theodore Jones, 2s.; cloth, 3s.
Book-Keeping for the Million. By T. Jones, 2s.; cloth, 3s.
Books for Jones's System. Ruled Sets of, 2s.
- Commentary, The New Testament. Edited by the Lord Bishop of
GLOUCESTER and BRISTOL. Handy Volume Edition.
St. Matthew, 3s. 6d. St. Mark, 3s. St. Luke, 3s. 6d. St. John,
3s. 6d. The Acts of the Apostles, 3s. 6d. Romans, 2s. 6d. Corinthians
I. and II., 3s. Galatians, Ephesians, and Philippians, 3s. Colossians,
Thessalonians, and Timothy, 3s. Titus, Philemon, Hebrews, and
James, 3s. Peter, Jude, and John, 3s. The Revelation, 3s. An
Introduction to the New Testament, 3s. 6d.
- Commentary, Old Testament. Edited by Bishop ELLICOTT. Handy
Volume Edition. In Vols. suitable for School and general use.
Genesis, 3s. 6d. Exodus, 3s. Leviticus, 3s. Numbers, 2s. 6d.
Deuteronomy, 2s. 6d.
- Copy-Books, Cassell's Graduated. *Eighteen Books.* 2d. each.
- Copy-Books, The Modern School. In Twelve Books, of 24 pages
each, price 2d. each.
- Drawing Books for Young Artists. 4 Books. 6d. each.
- Drawing Books, Superior. 4 Books. Printed in Fac-simile by Litho-
graphy, price 5s. each.
- Drawing Copies, Cassell's Modern School Freehand. First Grade,
1s.; Second Grade, 2s.
- Energy and Motion: A Text-Book of Elementary Mechanics.
By WILLIAM FAIRIE, M.A. Illustrated. 1s. 6d.
- English Literature, A First Sketch of, from the Earliest Period to
the Present Time. By Prof. HENRY MORLEY. 7s. 6d.
- Euclid, Cassell's. Edited by Prof. WALLACE, A.M. 1s.
- Euclid, The First Four Books of. In paper, 6d.; cloth, 9d.
- French, Cassell's Lessons in. *New and Revised Edition.* Parts I.
and II., each 2s. 6d.; complete, 4s. 6d. Key, 1s. 6d.
- French-English and English-French Dictionary. *Entirely New
and Enlarged Edition.* 1,150 pages, 8vo, cloth, 3s. 6d.
- Galbraith and Haughton's Scientific Manuals. By the Rev. Prof.
GALBRAITH, M.A., and the Rev. Prof. HAUGHTON, M.D., D.C.L.
Arithmetic, 3s. 6d.—Plane Trigonometry, 2s. 6d.—Euclid, Books I.,
II., III., 2s. 6d.—Books IV., V., VI. 2s. 6d.—Mathematical Tables,
3s. 6d.—Mechanics, 3s. 6d.—Optics, 2s. 6d.—Hydrostatics, 3s. 6d.—
Astronomy, 5s.—Steam Engine, 3s. 6d.—Algebra, Part I., cloth, 2s. 6d.;
Complete, 7s. 6d.—Tides and Tidal Currents, with Tidal Cards, 3s.
- German-English and English-German Dictionary. 3s. 6d.
- German Reading, First Lessons in. By A. JAGST. Illustrated. 1s.
- Handbook of New Code of Regulations. By JOHN F. MOSS. 1s.
- Historical Course for Schools, Cassell's. Illustrated throughout.
I.—Stories from English History, 1s. II.—The Simple Outline of
English History, 1s. 3d. III.—The Class History of England, 2s. 6d.

Selections from Cassell & Company's Publications.

- Latin-English and English-Latin Dictionary. By J. R. BEARD, D.D., and C. BEARD, B.A. Crown 8vo, 914 pp., 3s. 6d.
- Little Folks' History of England. By ISA CRAIG-KNOX. With 30 Illustrations. 1s. 6d.
- Making of the Home, The: A Book of Domestic Economy for School and Home Use. By Mrs. SAMUEL A. BARNETT. 1s. 6d.
- Marlborough Books:—Arithmetic Examples, 3s. Arithmetic Rules, 1s. 6d. French Exercises, 3s. 6d. French Grammar, 2s. 6d. German Grammar, 3s. 6d.
- Music, An Elementary Manual of. By HENRY LESLIE. 1s.
- Natural Philosophy. By Rev. Prof. HAUGHTON, F.R.S. Illustrated. 3s. 6d.
- Painting, Guides to. With Coloured Plates and full instructions:—Animal Painting, 5s.—China Painting, 5s.—Figure Painting, 7s. 6d.—Flower Painting, 2 Books, 5s. each.—Tree Painting, 5s.—Sepia Painting, 5s.—Water Colour Painting, 5s.—Neutral Tint, 5s.
- Popular Educator, Cassell's. *New and Thoroughly Revised Edition.* Illustrated throughout. Complete in Six Vols., 5s. each.
- Physical Science, Intermediate Text-Book of. By F. H. BOWMAN, D.Sc. F.R.A.S., F.L.S. Illustrated. 3s. 6d.
- Readers, Cassell's Readable. Carefully graduated, extremely interesting, and illustrated throughout. (*List on application.*)
- Readers, Cassell's Historical. Illustrated throughout, printed on superior paper, and strongly bound in cloth. (*List on application.*)
- Readers, The Modern Geographical, illustrated throughout, and strongly bound in cloth. (*List on application.*)
- Readers, The Modern School. Illustrated. (*List on application.*)
- Reading and Spelling Book, Cassell's Illustrated. 1s.
- Right Lines; or, Form and Colour. With Illustrations. 1s.
- School Manager's Manual. By F. C. MILLS, M.A. 1s.
- Shakspeare's Plays for School Use. 5 Books. Illustrated, 6d. each.
- Shakspeare Reading Book, The. By H. COURTHOPE BOWEN, M.A. Illustrated. 3s. 6d. Also issued in Three Books, 1s. each.
- Spelling, A Complete Manual of. By J. D. MORELL, LL.D. 1s.
- Technical Manuals, Cassell's. Illustrated throughout:—Handrailing and Staircasing, 3s. 6d.—Bricklayers, Drawing for, 3s.—Building Construction, 2s.—Cabinet-Makers, Drawing for, 3s.—Carpenters and Joiners, Drawing for, 3s. 6d.—Gothic Stonework, 3s.—Linear Drawing and Practical Geometry, 2s.—Linear Drawing and Projection. The Two Vols. in One, 3s. 6d.—Machinists and Engineers, Drawing for, 4s. 6d.—Metal-Plate Workers, Drawing for, 3s.—Model Drawing, 3s.—Orthographical and Isometrical Projection, 2s.—Practical Perspective, 3s.—Stonemasons, Drawing for, 3s.—Applied Mechanics, by Prof. R. S. Ball, LL.D., 2s.—Systematic Drawing and Shading, by Charles Ryan, 2s.
- Technical Educator, Cassell's. Four Vols., 6s. each. Popular Edition, in Four Vols., 5s. each.
- Technology, Manuals of. Edited by Prof. AVRTON, F.R.S., and RICHARD WORMELL, D.Sc., M.A. Illustrated throughout:—The Dyeing of Textile Fabrics, by Prof. Hummel, 5s.—Watch and Clock Making, by D. Glasgow, 4s. 6d.—Steel and Iron, by W. H. Greenwood, F.C.S., Assoc. M.I.C.E., &c., 5s.—Spinning Woollen and Worsted, by W. S. Bright McLaren, 4s. 6d.—Design in Textile Fabrics, by T. R. Ashenhurst, 4s. 6d.—Practical Mechanics, by Prof. Perry, M.E., 3s. 6d.—Cutting Tools Worked by Hand and Machine, by Prof. Smith, 3s. 6d.

Other Volumes in preparation. A Prospectus sent post free on application.

Books for Young People,

"Little Folks" Half-Yearly Volume. With 200 Illustrations, 3s. 6d.; or cloth gilt, 5s.

Bo-Peep. A Book for the Little Ones. With Original Stories and Verses, Illustrated throughout. Boards, 2s. 6d.; cloth gilt, 3s. 6d.

The World's Lumber Room. By SELINA GAYE. Illustrated. 3s. 6d.

The "Proverbs" Series. Consisting of a New and Original Series of Stories by Popular Authors, founded on and illustrating well-known Proverbs. With Four Illustrations in each Book, printed on a tint. Crown 8vo, 160 pages, cloth, 1s. 6d. each.

FRITTERS; OR, "IT'S A LONG LANE THAT HAS NO TURNING." By Sarah Pitt.

TRIXY; OR, "THOSE WHO LIVE IN GLASS HOUSES SHOULDN'T THROW STONES." By Maggie Symington.

THE TWO HARDCASTLES; OR, "A FRIEND IN NEED IS A FRIEND INDEED." By Madeline Bonavia Hunt.

The "Cross and Crown" Series. Consisting of Stories founded on incidents which occurred during Religious Persecutions of Past Days. With Four Illustrations in each Book, printed on a tint. Crown 8vo, 256 pages, 2s. 6d. each.

BY FIRE AND SWORD: A STORY OF THE HUGUENOTS. By Thomas Archer.

ADAM HEPBURN'S VOW: A TALE OF KIRK AND COVENANT. By Annie S. Swan.

The World's Workers. A Series of New and Original Volumes. With Portraits printed on a tint as Frontispiece. 1s. each.

CHARLES DICKENS. By his Eldest Daughter.

SIR TITUS SALT AND GEORGE MOORE. By J. Burnley.

FLORENCE NIGHTINGALE, CATHERINE MARSH, FRANCES RIDLEY HAVERGAL, MRS. RANYARD ("L.N.R."). By Lizzie Aldridge.

DR. GUTHRIE, FATHER MATHEW, ELIHU BURRITT, JOSEPH LIVESEY. By the Rev. J. W. Kirtton.

SIR HENRY HAVELOCK AND COLIN CAMPBELL, LORD CLYDE. By E. C. Phillips.

The "Chimes" Series. Each containing 64 pages, with Illustrations on every page, and handsomely bound in cloth, 1s.

BIBLE CHIMES. Contains Bible Verses for Every Day in the Month.

DAILY CHIMES. Verses from the Poets for Every Day in the Month.

MAJOR MONK'S MOTTO; OR, "LOOK BEFORE YOU LEAP." By the Rev. F. Langbridge.

TIM THOMSON'S TRIAL; OR, "ALL IS NOT GOLD THAT GLITTERS." By George Weatherly.

URSULA'S STUMBLING-BLOCK; OR, "PRIDE COMES BEFORE A FALL." By Julia Goddard.

RUTH'S LIFE-WORK; OR, "NO PAINS, NO GAINS." By the Rev. Joseph Johnson.

No. XIII.; OR, THE STORY OF THE LOST VESTAL. A Tale of Early Christian Days. By Emma Marshall.

ABRAHAM LINCOLN. By Ernest Foster.

DAVID LIVINGSTONE. By Robert Smiles.

GEORGE MÜLLER AND ANDREW REED. By E. R. Pitman.

RICHARD COBDEN. By R. Gowing.

BENJAMIN FRANKLIN. By E. M. Tomkinson.

HANDEL. By Eliza Clarke.

TURNER, THE ARTIST. By the Rev. S. A. Swaine.

GEORGE AND ROBERT STEPHENSON. By C. L. Matéaux.

HOLY CHIMES. Verses for Every Sunday in the Year.

OLD WORLD CHIMES. Verses from old writers for Every Day in the Month.

Selections from Cassell & Company's Publications.

New Books for Boys. With Original Illustrations, produced in a tint. Cloth gilt, 5s. each.

"FOLLOW MY LEADER;" OR, THE BOYS OF TEMPLETON. By Talbot Baines Reed.
FOR FORTUNE AND GLORY: A STORY OF THE SOUDAN WAR. By Lewis Hough.

THE CHAMPION OF ODIN; OR, VIKING LIFE IN THE DAYS OF OLD. By J. Fred. Hodgetts.
BOUND BY A SPELL; OR THE HUNTED WITCH OF THE FOREST. By the Hon. Mrs. Greene.

Price 3s. 6d. each.

ON BOARD THE "ESMERALDA;" OR, MARTIN LEIGH'S LOG. By John C. Hutcheson.

IN QUEST OF GOLD; OR, UNDER THE WHANGA FALLS. By Alfred St. Johnston.

FOR QUEEN AND KING; OR, THE LOYAL 'PRENTICE. By Henry Frith.

The "Boy Pioneer" Series. By EDWARD S. ELLIS. With Four Full-page Illustrations in each Book. Crown 8vo, cloth, 2s. 6d. each.

NED IN THE WOODS. A Tale of Early Days in the West.

NED ON THE RIVER. A Tale of Indian River Warfare.

NED IN THE BLOCK HOUSE. A Story of Pioneer Life in Kentucky.

The "Log Cabin" Series. By EDWARD S. ELLIS. With Four Full-page Illustrations in each. Crown 8vo, cloth, 2s. 6d. each.

THE LOST TRAIL.

CAMP-FIRE AND WIGWAM.

Sixpenny Story Books. All Illustrated, and containing interesting Stories by well-known Writers.

LITTLE CONTENT.
THE SMUGGLER'S CAVE.
LITTLE LIZZIE.
LITTLE BIRD.
THE BOOT ON THE WRONG FOOT.
LUKE BARNICOTT.
LITTLE PICKLES.
THE BOAT CLUB. By Oliver Optic.

HELPLESS NELLIE; AND OTHER STORIES.
THE ELCHESSTER COLLEGE BOYS.
MY FIRST CRUISE.
LOTTIE'S WHITE FROCK.
ONLY JUST ONCE.
THE LITTLE PEACEMAKER.
THE DELFT JUG. By Silverpen.

The "Baby's Album" Series. Four Books, each containing about 50 Illustrations. Price 6d. each; or cloth gilt, 1s. each.

BABY'S ALBUM.
DOLLY'S ALBUM.

FAIRY'S ALBUM.
PUSSY'S ALBUM.

Illustrated Books for the Little Ones. Containing interesting Stories. All Illustrated. 1s. each.

INDOORS AND OUT.
SOME FARM FRIENDS.
THOSE GOLDEN SANDS.
LITTLE MOTHERS AND THEIR CHILDREN.

OUR PRETTY PETS.
OUR SCHOOLDAY HOURS.
CREATURES TAME.
CREATURES WILD.

Shilling Story Books. All Illustrated, and containing interesting Stories.

THORNS AND TANGLES.
THE CUCKOO IN THE ROBIN'S NEST.
JOHN'S MISTAKE.
PEARL'S FAIRY FLOWER.
THE HISTORY OF FIVE LITTLE PITCHERS.
DIAMONDS IN THE SAND.
SURLY BOB.
THE GIANT'S CRADLE.

SHAG AND DOLL.
AUNT LUCIA'S LOCKET.
THE MAGIC MIRROR.
THE COST OF REVENGE.
CLEVER FRANK.
AMONG THE REDSKINS.
THE FERRYMAN OF BRILL.
HARRY MAXWELL.
A BANISHED MONARCH.

Selections from Cassell & Company's Publications.

"Little Folks" Painting Books. With Text, and Outline Illustrations for Water-Colour Painting. 1s. each.

FRUITS AND BLOSSOMS FOR
"LITTLE FOLKS" TO PAINT.
THE "LITTLE FOLKS" PROVERB
PAINTING BOOK.
THE "LITTLE FOLKS" ILLUMINATING BOOK.

PICTURES TO PAINT.
"LITTLE FOLKS" PAINTING BOOK.
"LITTLE FOLKS" NATURE PAINTING BOOK.
ANOTHER "LITTLE FOLKS" PAINTING BOOK.

Eighteenpenny Story Books. All Illustrated throughout.

THREE WEE ULSTER LASSIES.
LITTLE QUEEN MAB.
UP THE LADDER.
DICK'S HERO; AND OTHER STORIES.
THE CHIP BOY.
RAGGLES, BAGGLES, and the EMPEROR.
ROSES FROM THORNS.
FAITH'S FATHER.

BY LAND AND SEA.
THE YOUNG BERRINGTONS.
JEFF AND LEFF.
TOM MORRIS'S ERROR.
WORTH MORE THAN GOLD.
"THROUGH FLOOD — THROUGH FIRE;" AND OTHER STORIES.
THE GIRL WITH THE GOLDEN LOCKS.
STORIES OF THE OLDEN TIME.

The "Cosy Corner" Series. Story Books for Children. Each containing nearly ONE HUNDRED PICTURES. 1s. 6d. each.

SEE-SAW STORIES.
LITTLE CHIMES FOR ALL TIMES.
WEE WILLIE WINKIE.
BRIGHT SUNDAYS.
PET'S POSY OF PICTURES AND STORIES.
DOT'S STORY BOOK.

STORY FLOWERS FOR RAINY HOURS.
LITTLE TALKS WITH LITTLE PEOPLE.
BRIGHT RAYS FOR DULL DAYS.
CHATS FOR SMALL CHATTERERS.
PICTURES FOR HAPPY HOURS.
UPS AND DOWNS OF A DONKEY'S LIFE.

The "World in Pictures." Illustrated throughout. 2s. 6d. each.

A RAMBLE ROUND FRANCE.
ALL THE RUSSIANS.
CHATS ABOUT GERMANY.
THE LAND OF THE PYRAMIDS (EGYPT).
PEEPS INTO CHINA.

THE EASTERN WONDERLAND (JAPAN).
GLIMPSES OF SOUTH AMERICA.
ROUND AFRICA.
THE LAND OF TEMPLES (INDIA).
THE ISLES OF THE PACIFIC.

Two-Shilling Story Books. All Illustrated.

STORIES OF THE TOWER.
MR. BURKE'S NIECES.
MAY CUNNINGHAM'S TRIAL.
THE TOP OF THE LADDER: HOW TO REACH IT.
LITTLE FLOTSAM.
MADGE AND HER FRIENDS.
THE CHILDREN OF THE COURT.
A MOONBEAM TANGLE.
MAID MARJORY.

THE FOUR CATS OF THE TIPPER-TONS.
MARION'S TWO HOMES.
LITTLE FOLKS' SUNDAY BOOK.
TWO FOURPENNY BITS.
POOR NELLY.
TOM HERIOT.
THROUGH PERIL TO FORTUNE.
AUNT TABITHA'S WAIFS.
IN MISCHIEF AGAIN.

Half-Crown Story Books.

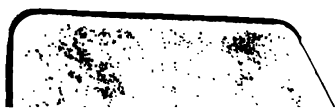
MARGARET'S ENEMY.
PEN'S PERPLEXITIES.
NOTABLE SHIPWRECKS.
GOLDEN DAYS.
WONDERS OF COMMON THINGS.
LITTLE EMPRESS JOAN.
TRUTH WILL OUT.

SOLDIER AND PATRIOT (George Washington).
PICTURES OF SCHOOL LIFE AND BOYHOOD.
THE YOUNG MAN IN THE BATTLE OF LIFE. By the Rev. W. Landels.
THE TRUE GLORY OF WOMAN. By the Rev. Dr. Landels.

Selections from Cassell & Company's Publications.

- Library of Wonders.** Illustrated Gift-books for Boys. 2s. 6d. each.
 WONDERFUL ADVENTURES. WONDERS OF WATER.
 WONDERS OF ANIMAL INSTINCT. WONDERFUL ESCAPES.
 WONDERS OF ARCHITECTURE. BODILY STRENGTH AND SKILL.
 WONDERS OF ACOUSTICS. WONDERFUL BALLOON ASCENTS.
- Gift Books for Children.** With Coloured Illustrations, 2s. 6d. each.
 THE STORY OF ROBIN HOOD. TRUE ROBINSON CRUSOE.
 OFF TO SEA. REYNARD THE FOX.
 SANDFORD AND MERTON. THE PILGRIM'S PROGRESS.
- Three and Sixpenny Library** of Standard Tales, &c. All Illustrated and bound in cloth gilt Crown 8vo. 3s. 6d. each.
 JANE AUSTEN AND HER WORKS. SCHOOL GIRLS.
 BETTER THAN GOOD. DEEPPDALE VICARAGE.
 HEROINES OF THE MISSION FIELD. IN DUTY BOUND.
 MISSION LIFE IN GREECE AND PALESTINE. THE HALF SISTERS.
 THE DINGY HOUSE AT KENSINGTON. PEGGY OGLIVIE'S INHERITANCE.
 THE FAMILY HONOUR.
 AT THE SOUTH POLE. ESTHER WEST.
 THE STORY OF CAPTAIN COOK. WORKING TO WIN.
 THE ROMANCE OF TRADE. KRILOF AND HIS FABLES. By
 THE THREE HOMES. W. R. S. Ralston, M.A.
 MY GUARDIAN. FAIRY TALES. By Prof. Morley.
- The Home Chat Series.** All Illustrated throughout. Fcap. 4to.
 Boards, 3s. 6d. each. Cloth, gilt edges, 5s. each.
 HALF-HOURS WITH EARLY EXPLORERS. SUNDAY CHATS WITH OUR YOUNG
 FOLKS.
 STORIES ABOUT ANIMALS. PEEPS ABROAD FOR FOLKS AT
 STORIES ABOUT BIRDS. HOME.
 PAWS AND CLAWS. AROUND AND ABOUT OLD ENGLAND.
 HOME CHAT.
- Books for the Little Ones.**
 THE LITTLE DOINGS OF SOME LITTLE FOLKS. By Chatty
 Cheerful. Illustrated. 5s.
 THE SUNDAY SCRAP BOOK. With One Thousand Scripture Pictures. Boards, 5s.; cloth, 7s. 6d.
 DAISY DIMPLE'S SCRAP BOOK. Containing about 1,000 Pictures. Boards, 5s.; cloth gilt, 7s. 6d.
 LESLIE'S SONGS FOR LITTLE FOLKS. Illustrated. 1s. 6d.
- Books for Boys.**
 KING SOLOMON'S MINES. By H. Rider Haggard. 5s.
 THE SEA FATHERS. By Clements Markham. Illustrated. 2s. 6d.
 TREASURE ISLAND. By R. L. Stevenson. With Full-page Illustrations. 5s.
 HALF-HOURS WITH EARLY EXPLORERS. By T. Frost. Illustrated. Cloth gilt, 5s.
- MODERN EXPLORERS.** By Thomas Frost. Illustrated. 5s.
 CRUISE IN CHINESE WATERS. By Capt. Lindley. Illustrated. 5s.
 WILD ADVENTURES IN WILD PLACES. By Dr. Gordon Stables, M.D., R.N. Illustrated. 5s.
 JUNGLE, PEAK, AND PLAIN. By Dr. Gordon Stables, R.N. Illustrated. 5s.

CASSELL & COMPANY, Limited, London, Paris, New York and Melbourne.





THE WORLDS WORKERS